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An updated catalogue of the Histeridae (Coleoptera) of Sardinia, with faunistic, zoogeographical, ecological and conservation remarks*

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Abstract

An updated geographical catalogue of the histerid fauna of Sardinia is given, compiling data from 74 public and private collections and records from 115 works (papers and monographs) published during the last two centuries. Seventy-four species are listed, reporting, for each one of them, collecting data (locality, date, collector/s, etc.), chorotype, Italian distribution, notes on ecology of the adults and possible additional comments. Forty-three species known from previous literature records but not included in the catalogue are listed, and the reasons for their exclusion are explained. The paper is completed by faunistic, zoogeographical, ecological and conservation remarks.

The number of Sardinian species listed in the present catalogue (74) is equal to 44.8% of the known Italian fauna (165), but it is much lower than the total number of taxa reported from Sardinia in the literature (117). Of these species, only 32 have been reported by all considered works, and the oldest list and the present one share only 35 species. There are several reasons for these differences: many taxa have been excluded because they were based on misidentifications, others because they were not present in any of the examined collections; on the other hand, a few species have been added during the last 60 years, because described as new or found for the first time in Sardinia. From 1980 to the present day, the number of recorded species seems to be almost unchanged (76 in 1980, 77 in 2005 and 74 today), despite the various exclusions and additions. This may signify that the histerid fauna of Sardinia is almost completely known and that few new findings can be expected in the future. Nevertheless, 10 taxa, corresponding to 13.6% of the total, are known from a single record, specifically: *Tribalus* (*Tribalus*) *minimus* (P. Rossi), *Platysoma* (*Cylister*) *elongatum elongatum* (Thunberg), *Hister unicolor unicolor* Linnaeus, *Merohister ariasi* (Marseul), *Atholus paganettii* (Bickhardt), *Paromalus* (*Paromalus*) *filum* Reitter, *Gnathoncus communis* (Marseul), *Gnathoncus nannetensis* (Marseul), *Saprinus* (*Microsaprinus*) *gomyi* Secq & Secq and *Exaesiopus grossipes grossipes* (Marseul). Future research on the histerid beetles in Sardinia should focus on these species and on those no longer recovered in the last two decades. Moreover, of the 74 listed species, one—*Hypocacculus* (*Nessus*) *puncticollis* (Küster)—was described based on Sardinian and Spanish specimens and 7—*Hister pustulosus* Gené, *Atholus debeauxi* (Moro), *Sardulus incrassatus* Magrini & Fancello, *S. sacerensis* Casale & Marcia, *S. spelaeus* Patrizi, *Gnathoncus cerberus* Auzat and *Hypocacculus* (*Hypocacculus*) *metallescens* (Erichson) – on Sardinian specimens, the first five being endemic or subendemic. The historical record of *Phelister haemorrhous* Marseul by Baudi di Selve is proved to be erroneous, and two specimens of an unidentified Neotropical *Epierus* Erichson are still housed under this name in his collection. *Phelister haemorrhous* has, in fact, never been collected in Sardinia, and the provenance ("Sardinia") of the two *Epierus* specimens is surely erroneous. The "not Sardinian endemic" status of *Gnathoncus cerberus* is confirmed, and new records from "Grotta di Frasassi" (Italy, Marches, Ancona) are given.

The chorological analysis shows that a large part of the species (48 = 64.9%) belongs to two groups: those widespread in the Holarctic region (31 = 41.9%) and those more or less widespread in the Mediterranean basin (17 = 23.0%). However, the most striking datum is the relatively high number of endemic and subendemic species (5 = 6.8%), represented by *Hister pustulosus* (present also in Sicily and Corsica), *Atholus debeauxi* (present also in Corsica), and *Sardulus incrassatus*, *S. sacerensis* and *S. spelaeus* (present only in Sardinia). However, when the analysis is carried out on the 22 most common and widespread taxa (based on the data reported in the catalogue), the number of "Mediterranean" species [i.e. those more or less widespread in the Mediterranean basin plus *Saprinus chalcites* (Illiger) and *Hister pustulosus*] is equal to the number of species widespread in the Holarctic region (9); this shows that the "Mediterranean" component of the Sardinian histerid fauna is stronger than suggested by the overall chorological analysis.

The analysis of the morpho-ecological groups shows that 37 species are saprophiles (50.0%), 12 psammophiles (16.2%), 10 dendrophiles (13.5%), 4 pholeophiles (5.4%), 3 endogeans (4.1%), and 1 myrmecophile (1.3%); the remaining 7 species are the so-called "micro-histerids" (9.5%).

The analysis of the dates for the last capture of each species shows that 55 species, i.e. 74.3% of the total, were last collected between 1990 and 2008. Probably, these species represent the extant and certain Sardinian histerid fauna; a number of them are rare, such as *Saprinus godet* (Brullé), *Atholus debeauxi*, *Merohister ariasi*, *Hister helluo* Truqui, *Teretrius fabricii* Mazur, *Hypocaccus pelleti* (Marseul), etc. Moreover, the analysis shows that 6 psammophilous species, from a total of 12, were last collected between 1973 and 1987; this loss of biodiversity could be real, caused by the destruction of sandy coastal habitats following an increase in tourism in those years, or apparent, due simply to their extreme rarity.

Key words: Coleoptera, Histeridae, Sardinia, catalogue, biogeography, ecology, taxonomy

Introduction

The Histeridae are a family of predacious Coleoptera ranging between 0.5 and 20 mm in length [the largest Italian species, *Pachylister inaequalis* (Olivier), reaches a maximum 15 mm] and usually of a rather stout build, rounded or oval in shape, but sometimes cylindrical or dorsoventrally flattened; the myrmeco-termitophiles subfamilies Haeteriinae and Chlamydopsinae (the latter not occurring in Italy) represent an exception with their peculiar and bizarre forms.

Apart from their general external appearance, all are characterized by a retractile head (except for the species of the tribe Hololeptini) and appendices, truncate elytra (which usually leave the last two abdominal segments well visible) and geniculate antennae with a compact club, usually consisting of three segments. Most species are black but some are brown, reddish, metallic blue or green, while others have elytral markings varying in colour from yellowish to red.

The Histeridae are worldwide in distribution with just under 4,300 known species, grouped into about 350 genera (*cf*. Mazur 1997; Penati, unpublished), a majority of which occurs in the tropics; 165 species have so far been recorded from the Italian territory, islands included (Penati & Vienna 2005, 2006a, 2006c; Casale *et al*. 2006).

The Sardinian species of Histeridae have never been specifically treated, even though many records have been published in various works (see References) in the past 140 years. In the present paper an updated topographic catalogue of the Histeridae of Sardinia (small islands included) is presented for the first time since the work "*Materiali per la fauna entomologica dell'isola di Sardegna*" (Bargagli 1871); the catalogue is completed with remarks on fauna, zoogeography, ecology and conservation.

Material and methods

Data collection. The catalogue is mainly based on data published within the Ckmap project, obtained from the screening of 109 literature works and the study of specimens from 74 public and private collections; the data contained in the Italian edition (Penati & Vienna 2005) are identical to those in the subsequent English edition (Penati & Vienna 2006a); for general information on the CKmap project see Ruffo and Stoch (2005, 2006).

These data are integrated with the published records overlooked by Penati and Vienna (2005, 2006a), later records, and previously unpublished records; also, the study of the various collections at the "Museo Civico di Storia Naturale 'G. Doria'" (Genoa) and the "Baudi di Selve" and "Lostia di Santa Sofia" collections (see Poggi & Conci 1996) proved to be very useful.

The Baudi di Selve collection is currently housed at the "Museo Regionale di Scienze Naturali" of Turin, and its examination was useful to understand some old, doubtful records (see *Phelister haemorrhous* Marseul in the chapter "Excluded and/or doubtful species"). None of the specimens in the collection carry a locality label, so it needs to be examined using Baudi's handwritten catalogue, now kept at the "Dipartimento di Biologia Animale e dell'Uomo" of the University of Turin. In Baudi's catalogue the name of each species, subspecies and variety is followed by the locality of origin and, sometimes, the name of the collector/donator. Curiously, specimens are arranged from right to left in each box (Baudi was left-handed, Felice Capra to Roberto Poggi, pers. comm.), whereas in the catalogue localities are obviously written from left to right. Thus, when several specimens of a taxon are present from various localities, the first in the row comes from the locality listed last, and vice versa. For instance, the collection includes four specimens of "*Saprinus furvus* Er.", the origin of which is "Nizza, Sard." [= Nice (France), Sardinia]; considering the above-mentioned "inversion", the first specimen in the row (the leftmost one) is from Sardinia, whereas the last specimen (the rightmost one) is from Nice. However, it is obvious that in such cases, apart from the rare exceptions, the absence of labels with locality data makes it practically impossible to determine how many specimens came from each locality; in the above example, the number of specimens from Nice and Sardinia could be either 1

and 3, 2 and 2 or 3 and 1. Whenever such a situation occurred, the number of specimens from Sardinia is given as an interval (e.g. 1–3) in the present catalogue. Finally, the Sardinian Histeridae in Baudi's collection are never listed with a precise locality, but only generically as "Sard.".

Lostia di Santa Sofia was the only Sardinian entomologist of the nineteenth century (Conci 1975; Crovetti 1978) and his collection is deposited at the "Dipartimento di Protezione delle Piante - Entomologia Agraria" of the University of Sassari since 28th March 2008 (T. Nuvoli, pers. comm.); previously, and ever since its formation in 1937 (Crovetti 1978), it had been housed at the "Osservatorio per le Malattie delle Piante per la Sardegna" (ex "Osservatorio Fitopatologico" of Cagliari) (*cf*. Crovetti 1978; Poggi & Conci 1996).

Together with the collection are a series of very interesting documents, described in detail by Crovetti (1978). Among these is a large textbook, entirely handwritten by Lostia and labelled "Coleotteri di Sardegna / Catalogo Generale / 1939" [= Coleoptera of Sardinia / General Catalogue / 1939]; in the intentions of the author, this manuscript was meant to be published as an actual catalogue of the beetles of Sardinia (Crovetti 1978). The brief introduction reads [translated from the Italian original]: "*In this catalogue the systematic order of the "Catalogo dei Coleotteri d'Italia" by P. Luigioni [*(Luigioni 1929)*] is followed, with a few modifications for some species. All the species not indicated as occurring in Sardinia, or not indicated at all, are followed by the author's name. Species not mentioned from Sardinia in Luigioni's catalogue are marked* +. *Species preserved in the Collection of "R. Osservatorio di fitopatologia" are marked* ✚. *S.S. indicates Northern Sardinia indicated [*sic!*] by Damry. In the catalogue, 393 s[pecies] referred to 28 genera not indicated in the Luigioni Cat. are reported*".

For nearly all the listed species, a single locality name is given in a column on the right (e.g.: 7 Fratelli, Quarto, Soleminis, etc.) besides the possible symbols +, which always precedes the name of the species, and ✚, which always precedes the locality name and is sometimes accompanied by the sign "–", the meaning of which is unknown to me. Furthermore, for nearly all species marked with ✚, i.e. present in the collection, a date (e.g. 1937, 1939, 1941) was added in the space between the name and the locality, in a handwriting apparently different from that of the introductory notes and which could therefore belong to someone other than Lostia; as I am unable to verify this with certainty I did not include these dates in the present work, also considering the fact that they are never mentioned on the labels below the specimens.

Furthermore, I noticed that (at least for the Histeridae) the localities written on the labels nearly always differ from those given in the catalogue and that the latter often correspond to specimens collected by Lostia but preserved in other collections, for example Agostino Dodero's one (currently in the "Museo Civico di Storia Naturale 'G. Doria'", Genoa). This created considerable confusion as, in 1992, a typewritten copy of the textbook was produced (possibly by the Osservatorio staff) which, due to a serious interpretation error, transformed what was in every respect a "General catalogue of the Coleoptera of Sardinia" (*cf*. Crovetti 1978), with inhomogeneous annotations on localities and dates of capture, into a "supposed" list of the specimens preserved in the collection, with indication of the species and collection data (locality and date), the latter being in fact nearly always wrong. Unfortunately, all records relating to the Lostia collection reported by Penati and Vienna (2005, 2006a) were taken from this "list" and not from the original manuscript or from direct examination of the collection, so they are nearly all erroneous; furthermore, due to an error in the compilation of the database for the CKmap project, all these specimens were attributed to the general collection of the "Museo Civico di Storia Naturale 'G. Doria'" of Genoa instead of to the Lostia di Santa Sofia collection. These errors are corrected in the present paper and the corrections are noted under the species concerned.

The data published in this paper are taken from about 80 publications (*cf*. References) and 60-odd public and private collections (for a complete list see Abbreviations). In order for the reader to better understand the history of the knowledge on the Sardinian histerid fauna, a chrono-bibliographic prospect is provided (Tab. 1), which lists all taxa cited from the island in the most important general faunistic works published from 1871 to the present day, namely those of Bargagli (1871), Bertolini (1904), Porta (1926, 1934), Luigioni (1929), Vienna (1980), Audisio *et al*. (1995), Penati and Vienna (2002), Yélamos and Lackner (2004), Penati and Vienna (2005, 2006a), and the present catalogue. I have decided to include also taxa cited from "All of Italy"

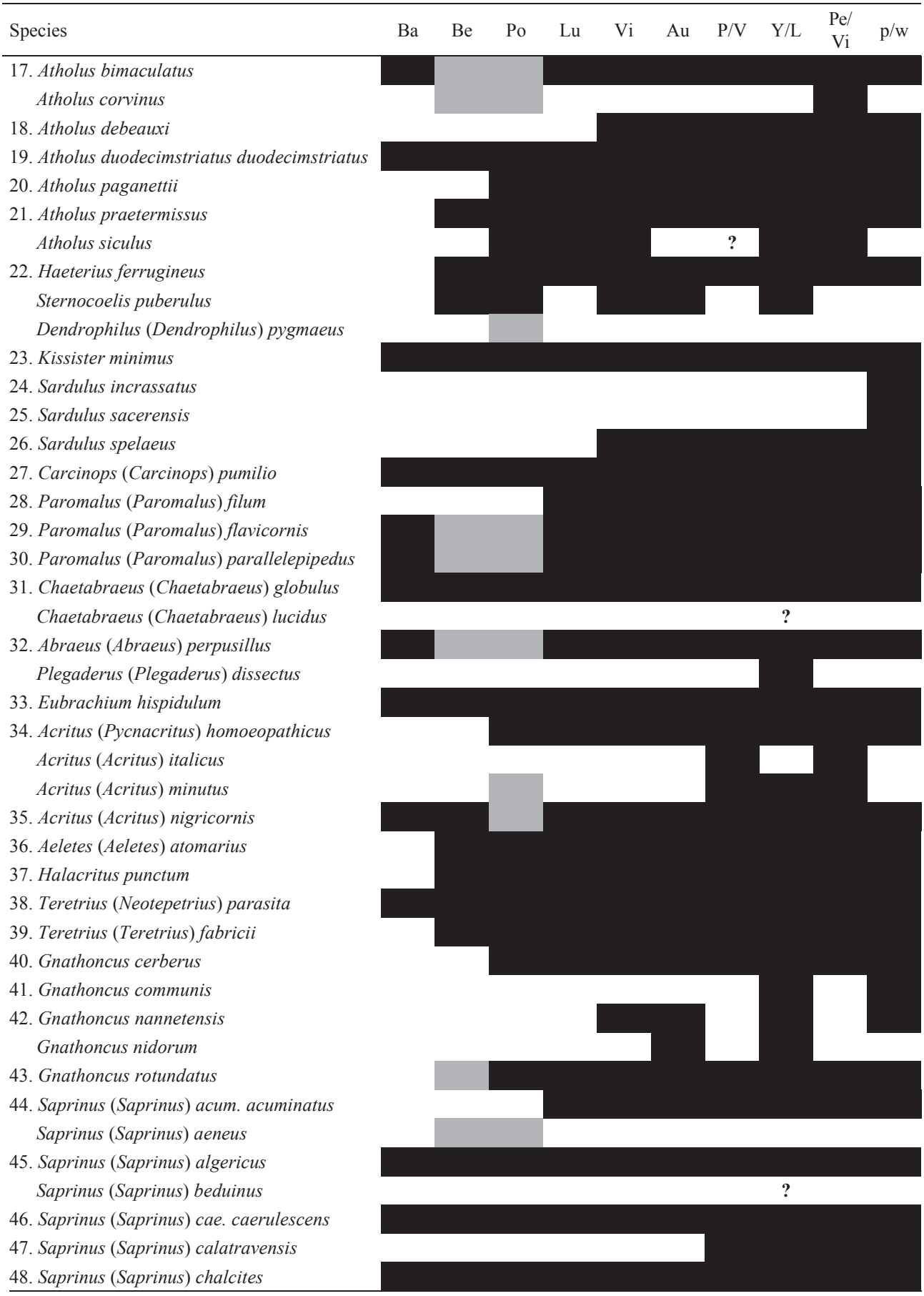
[= "Tutta Italia"] by Bertolini (1904) and Porta (1926), as suggested by G. Nardi (*in litteris*), who considers such records as including also Sardinia and Sicily.

TABLE 1. Chrono-bibliographic guide to all taxa of Histeridae recorded from Sardinia (for the criteria used in the choice of works see chapter "Material and methods"). The non-numbered taxa are listed in the chapter "Excluded and/or doubtful species". Legend: Ba = Bargagli (1871); Be = Bertolini (1904); Po = Porta (1926, 1934); Lu = Luigioni (1929); Vi = Vienna (1980); Au = Audisio *et al*. (1995); P/V = Penati and Vienna (2002); Y/L = Yélamos and Lackner (2004); Pe/Vi = Penati and Vienna (2005, 2006a); p/w = present work. Generic records from "All of Italy" by Bertolini (1904) and Porta (1926) are indicated in grey, whereas doubtful species are marked **?**; the numbers of doubtful species and of those recorded from "All of Italy", already counted in the totals, are given in brackets at the bottom of the columns.

Species	Ba	Be	Po	Lu	Vi	Au	P/V	Y/L	Pe/Vi	p/w
01. *Onthophilus globulosus*	■	■	■	■	■	■	■	■	■	■
Onthophilus punctatus punctatus	■	■	▒					■		
Onthophilus striatus striatus		▒	▒					■		
02. *Epierus comptus*	■	■	■	■	■	■		■		■
03. *Tribalus* (*Tribalus*) *minimus*	■	■	■	■	■	■	■	■	■	■
Tribalus (*Tribalus*) *scaphidiformis*	■	■	■	■	■	■	?	■	■	
Phelister haemorrhous	■	■	■							
Platysoma (*Platysoma*) *compressum*	■	▒								
04. *Platysoma* (*Cylister*) *elongatum elongatum*	■	▒	▒	■	■	■		■		■
05. *Platysoma* (*Cylister*) *filiforme*					■	■	■	■	■	■
06. *Platylister* (*Popinus*) *algiricus*	■	■	■	■	■	■	■	■	■	■
07. *Eurosoma minor*	■	■	▒	■	■	■		■		■
08. *Margarinotus* (*Ptomister*) *brunneus*	■	▒	▒	■	■	■	■	■	■	■
Margarinotus (*Ptomister*) *merdarius*	■	▒	▒				■		■	
Margarinotus (*Eucalohister*) *bipustulatus*		■	■		■	■		■		
Margarinotus (*Stenister*) *graecus graecus*		■	■					■		
Margarinotus (*Stenister*) *obscurus*	■	▒	▒							
Margarinotus (*Paralister*) *car. carbonarius*		▒	▒							
Margarinotus (*Paralister*) *neglectus*		▒	▒							
Margarinotus (*Paralister*) *purpurascens*		▒	▒	■	■	■		■		
Margarinotus (*Paralister*) *ventralis*		▒	▒							
09. *Pactolinus major*	■	▒	▒	■	■	■	■	■	■	■
Pachylister inaequalis	■	▒	▒	■	■	■		■		
Hister bissexstriatus		▒	▒	■	■	■	?	■	■	
Hister grandicollis	■	■	■		■	■	?	■	■	
10. *Hister helluo*							■		■	■
11. *Hister illigeri illigeri*	■	▒	▒	■	■	■	■	■	■	■
12. *Hister lugubris*	■	■	■	■	■	■	■	■	■	■
13. *Hister pustulosus*	■	■	■	■	■	■	■	■	■	■
14. *Hister quadrimaculatus*	■	▒	▒	■	■	■	■	■	■	■
Hister quadrinotatus quadrinotatus	■	■	■	■	■	■		■		
Hister thoracicus	■	■	■	■	■	■	?	■	■	
15. *Hister unicolor unicolor*	■	▒	▒	■	■	■	■	■	■	■
16. *Merohister ariasi*							■		■	■
Eudiplister planulus		■	■							

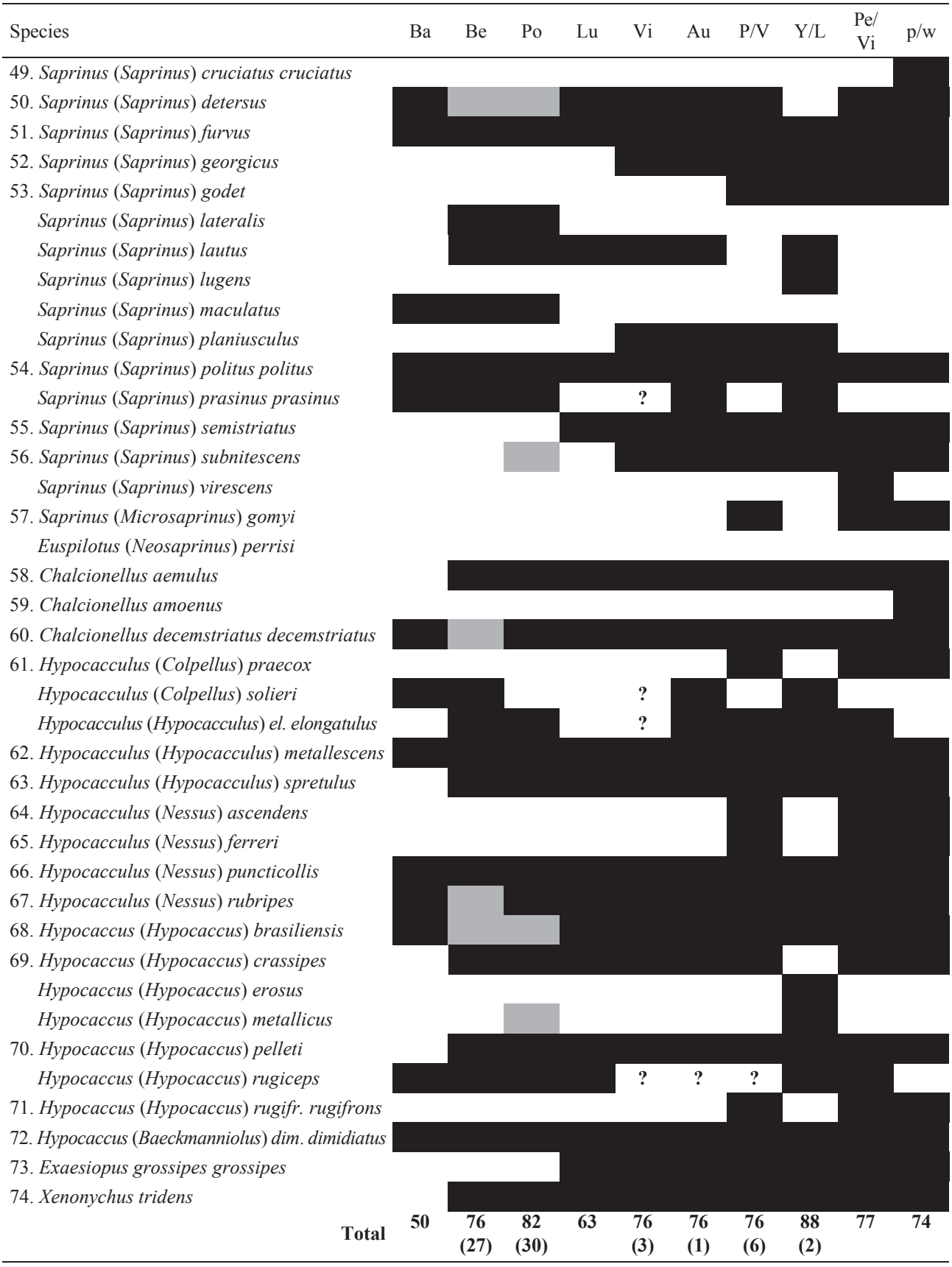
.....continued

TABKE 1 (continued)



.....continued

TABKE 1 (continued)



Species	Ba	Be	Po	Lu	Vi	Au	P/V	Y/L	Pe/Vi	p/w
49. *Saprinus* (*Saprinus*) *cruciatus cruciatus*										
50. *Saprinus* (*Saprinus*) *detersus*										
51. *Saprinus* (*Saprinus*) *furvus*										
52. *Saprinus* (*Saprinus*) *georgicus*										
53. *Saprinus* (*Saprinus*) *godet*										
Saprinus (*Saprinus*) *lateralis*										
Saprinus (*Saprinus*) *lautus*										
Saprinus (*Saprinus*) *lugens*										
Saprinus (*Saprinus*) *maculatus*										
Saprinus (*Saprinus*) *planiusculus*										
54. *Saprinus* (*Saprinus*) *politus politus*										
Saprinus (*Saprinus*) *prasinus prasinus*					?					
55. *Saprinus* (*Saprinus*) *semistriatus*										
56. *Saprinus* (*Saprinus*) *subnitescens*										
Saprinus (*Saprinus*) *virescens*										
57. *Saprinus* (*Microsaprinus*) *gomyi*										
Euspilotus (*Neosaprinus*) *perrisi*										
58. *Chalcionellus aemulus*										
59. *Chalcionellus amoenus*										
60. *Chalcionellus decemstriatus decemstriatus*										
61. *Hypocacculus* (*Colpellus*) *praecox*										
Hypocacculus (*Colpellus*) *solieri*					?					
Hypocacculus (*Hypocacculus*) *el. elongatulus*					?					
62. *Hypocacculus* (*Hypocacculus*) *metallescens*										
63. *Hypocacculus* (*Hypocacculus*) *spretulus*										
64. *Hypocacculus* (*Nessus*) *ascendens*										
65. *Hypocacculus* (*Nessus*) *ferreri*										
66. *Hypocacculus* (*Nessus*) *puncticollis*										
67. *Hypocacculus* (*Nessus*) *rubripes*										
68. *Hypocaccus* (*Hypocaccus*) *brasiliensis*										
69. *Hypocaccus* (*Hypocaccus*) *crassipes*										
Hypocaccus (*Hypocaccus*) *erosus*										
Hypocaccus (*Hypocaccus*) *metallicus*										
70. *Hypocaccus* (*Hypocaccus*) *pelleti*										
Hypocaccus (*Hypocaccus*) *rugiceps*					?	?	?			
71. *Hypocaccus* (*Hypocaccus*) *rugifr. rugifrons*										
72. *Hypocaccus* (*Baeckmanniolus*) *dim. dimidiatus*										
73. *Exaesiopus grossipes grossipes*										
74. *Xenonychus tridens*										
Total	**50**	**76 (27)**	**82 (30)**	**63**	**76 (3)**	**76 (1)**	**76 (6)**	**88 (2)**	**77**	**74**

Nomenclature and classification. As suggested by Caterino and Vogler (2002), the systematic order adopted follows Mazur (1997) and not Ślipiński and Mazur (1999); the nomenclature used is that of Mazur (2004) except for *Eblisia minor* (P. Rossi), recently assigned to the new genus *Eurosoma* Mazur & Ôhara, 2009. Within each genus, or subgenus, taxa are listed alphabetically.

Species list. For each species, all nomenclatural combinations found in the literature on Sardinia and differing from the currently valid scientific name are listed chronologically below the currently valid name. Collection data taken from the literature are listed separately from previously unpublished ones; in both cases, collecting localities are listed according to the former Sardinian provinces (Cagliari, Nuoro, Oristano and Sassari) and in alphabetical order, with the municipality listed first when known and the province underlined. Old toponyms are given in square brackets after the current names (e.g.: Olbia [= Terranova Pausania]), whereas generic toponyms (e.g.: Sardinia) or names not ascribable to any known toponym are given in inverted commas. Literature data also include records at a regional level ("Sardinia") and those given as "All of Italy" by Bertolini (1904) and Porta (1926, 1934).

Localities are followed by the following information (when known): elevation, date, habitat, collector/s, number of specimens and, in round brackets, one or more bibliographic references and/or the collection (or the collections) in which the specimens are deposited; any interpolations are given in square brackets.

Nearly all the literature data are taken from Penati and Vienna (2005, 2006a), so to avoid useless repetitions these references were omitted throughout; since these data were previously available only in digital format on the CD-ROM released together with both the Italian and English editions of the "Ckmap Project", I considered it useful to report them fully here. As for the collections, the depository is mentioned only for previously unpublished material or, in the case of already published records, only when personally examined by Penati and Vienna (2005, 2006a) or by myself during the preparation of the present work.

Finally, information for each species is completed by the chorotype, Italian distribution (at regional level; regions listed from north to south and from west to east), ecological remarks and possible further notes; unless otherwise specified, chorotypes and Italian distributions are taken from Penati and Vienna (2005, 2006a), and the ecology from Vienna (1980) and Yélamos (2002).

A separate chapter ("Excluded and/or doubtful species") is dedicated to those species which, despite having been recorded from Sardinia (Tab. 1), are excluded from the species list. The reasons for these exclusions are specified in each case, and these species are listed according to the systematic and nomenclatural criteria described above.

Zoogeography. Each species in the faunistic list is assigned to one of the chorotypes proposed by Vigna Taglianti *et al*. (1999), and a summary is presented in Tab. 2. The chorotypes are identical to those used by Stoch and Vigna Taglianti (2005, 2006) and defined for the Italian Histeridae by Penati and Vienna (2005, 2006a) on the basis of distribution ranges given by Vienna (1980), Mazur (1997) and Yélamos (2002). The chorotypes indicated by Penati and Vienna (2006c) and Vienna (2004) were referred to for *Saprinus* (*Saprinus*) *cruciatus cruciatus* (Fabricius) and *Chalcionellus amoenus* (Erichson), two taxa not treated by Penati and Vienna (2005, 2006a).

Based on distributional data published by Mazur (2004), it is probable that some of the chorotypes attributed by Penati and Vienna (2005, 2006a) need modifying; however, considering that the distributions provided by Mazur (2004) are not supported by precise records and are wrong or not up to date in many cases (see for example *Phelister haemorrhous* in the chapter Excluded and/or doubtful species), and considering that the chorological analysis is not the main aim of this work, I decided to maintain the same chorotypes for the sake of consistency with the previously published faunistic papers (Yélamos 2002; Penati & Vienna 2005, 2006a, 2007).

The chorological spectrum of the Sardinian histerid fauna is summarized in Tab. 3 and analysed in the Zoogeographical remarks.

Ecology. The Histeridae are mainly egg and larval predators of insects, principally of Diptera and Coleoptera. They are quite markedly thermophilous and have a well developed sense of smell (Vienna 1980). They are mainly found at low and medium elevations in environments (not cold ones) with decomposing organic matter (animal carcasses, excrements, manure, vegetable detritus, fungi), as well as under bark of dead or dying trees, in rot holes in tree trunks, galleries of xylophages, nests and burrows of birds and mammals, caves, etc. Some very minute species are probably mite predators or feed on fungal spores. Finally, some are myrmecophiles (and termitophiles, but the latter do not occur in Italy) feeding on larvae of the host ants or of other insects.

On the whole, the Histeridae can be considered as generalist predators, with few species strictly associated with a particular habitat (Vienna 1980; Kovarik & Caterino 2001; Yélamos 2002). Despite this, it is possible to divide them into a few morpho-ecological groups, described by Kryzhanovskij (1989) and slightly modified by Yélamos (2002).

Dendrophiles. This group comprises the species inhabiting tree trunks (mainly of dead trees), and can be divided into two subgroups characterized by different adaptive morphologies: body flattened or body cylindrical. The "flattened" species (*Hololepta* spp., *Eurosoma* sp., *Platylomalus* spp., *Platysoma* spp. and *Platylister* spp.) are found mainly under bark and in tree phloem, whereas the cylindrical ones (*Cylister* spp., *Paromalus* spp., *Plegaderus* spp., *Eubrachium* spp. and *Teretrius* spp.) prevalently occur inside xylophagous beetle galleries, more rarely under bark.

Geophiles. This is the largest group, which comprises the species occurring in soil habitats. They are normally of oval or elliptical shape with strong, widened fore tibiae equipped with robust teeth for digging and moving in the substrate, and are predators of Diptera and Coleoptera larvae and eggs. The geophiles can be subdivided into three subgroups: saprophiles, psammophiles and pholeophiles.

Saprophiles. Subgroup which comprises coprophiles, necrophiles, phytosaprophiles and vagrant hunters (*Hister* spp., *Margarinotus* spp., *Pactolinus* spp., *Pachylister* spp., *Atholus* spp., *Saprinus* spp., etc.); it seems that, at least in Mediterranean environments, these Histeridae are more abundant in habitats with a sparse vegetation cover compared to habitats with a thick vegetation cover (see Penati 1998 for an analysis of the possible causes).

Psammophiles. This subgroup comprises some *Saprinus* spp. and many other Saprininae of small to minute size (*Hypocacculus* spp., *Hypocaccus* spp., *Exaesiopus* spp. and *Xenonychus* spp.), usually found at the base of typical dune vegetation and vegetation of other sandy habitats.

Pholeophiles. A subgroup comprising species more or less strictly associated with birds' nests and burrows of reptiles and mammals (*Gnathoncus* spp., *Onthophilus* spp., *Carcinops* spp., etc.); among these should be included, in my personal opinion, also *Gnathoncus cerberus* Auzat, which has been found on bat guano accumulated at the entrance of a cave (the same also occurs with the congeners *G. nannetensis* Marseul and *G. rotundatus* Kugelann), but the habitus of which does not show any adaptation to troglobious life whatsoever, as rightly observed by Vienna (1980).

Micro-histerids. A very heterogeneous group, characterized much more by morphological features than by ecological ones and thus strongly "artificial", comprising only species of small size (0.5–2.5 mm) with a rounded body and, usually, very thin legs, belonging to tribes Bacaniini, Abraeini and Acritini. They occur in vegetable matter, rotten wood and under stranded seaweed, feeding on small invertebrates (mites, nematodes, etc.) and fungal spores.

Endogeans/troglobes. Group which comprises very few species worldwide (Vomero 1973; Vienna 1980; Vomero 1982; Yélamos 2002), characterized by typical adaptations to endogean life (eyes and wings reduced or absent, etc.). In Italy it is represented by species of just three genera: *Neobacanius* Müller, with one species known only from Monti Lepini (Latium) (Magrini 2005); *Spelaeabraeus* Moro, with four endemic species of the north-eastern Prealps (Penati & Vienna 2005, 2006a); *Sardulus* Patrizi, with three Sardinian endemics (see Species list).

Inquiline species. In Italy this group is represented by just four myrmecophile species, one belonging to the Saprininae: *Myrmetes paykulli* Kanaar, and three to the Haeteriinae: *Haeterius ferrugineus* (Olivier), *Sternocoelis puberulus* (Motschulsky) and *Satrapes sartorii* (Redtenbacher).

The morpho-ecological spectrum of the Sardinian histerid fauna is summarized in Tab. 4 and analysed in the Ecological remarks.

Conservation. The general remarks made by Penati and Vienna (2005, 2006a) are valid for Sardinia: "*Among the Italian Histeridae, the most endangered species are the psammophilous and dendrophilous ones. The first are threatened by the destruction of both marine and freshwater sandy habitats (coastal dunes, banks, etc.), due to anthropization of beaches and the spreading cementation of large watercourses. The second are threatened by quantitative and qualitative impoverishment of forests, caused not only by logging and fires but also by reforestation using exotic species and bad management practices (cutting, clearing, etc.) which, through the removal of old trunks and dead wood, impoverish the lignicolous invertebrate fauna. Lastly, the negative effect of the reduction of bovine grazing on the distribution of coprophilous species in plain and lowland areas should not be underrated*".

Based on such considerations, the situation of the Sardinian histerid fauna is treated in the Conservation remarks by analysing the "chronology" of the last known date of capture of each species, also considering the morpho-ecological group they belong to (Tab. 6). I chose not to consider the conservation states (vulnerable, threatened, rare, unknown) attributed to some taxa by Penati and Vienna (2005, 2006a), as these need a rigorous revision based on IUCN criteria and on the most recent faunistic data.

Abbreviations

Collectors: AB = A.L. Briganti; A/C = G. Arbocco & L. Capocaccia; ACo = A. Costa; ACr = A. Crovetti; AD =A. Dodero; ADg = A. Degiovanni; AF = A. Fiori; AK = A. Krausse; AL = A. Lecis; AM = A. Molinu; AS = A. Sforzi; ASe = A. Servadei; AT = A. Torchia; BB = B. Bari; BC = B. Colonna; CA = [?] Castagnone; CF = C. Fresi; CM = C. Meloni; C/Ma = A. Casale & P. Marcia; C/N = C. Corti & A. Nistri; CO = C. Onnis; CT = C. Torti; CV = C. Violani; DA = [?] Damry; DB = D. Baratelli; DBi = D. Birtele; D/F = M. Dellacasa & C. Fresi; DM = D. Malmerendi; DS = D. Sechi; DW = D. Whitmore; EB = E. Bonometto; EC = E. Casula; EM = E. Moltoni; ER = E. Ratti; ES = E. Stolfa; FA = F. Angelini; FB = F. Baudi di Selve; FG = F. Gasparo; FH = F. Hartig; FS = F. Solari; FT = [?] Fattor; GA = G. Arras; GB = G. Binaghi; GBa = G. Bartoli; GBe = G. Bertagni; GC = G. Cesaraccio; GCh = G.C. Champion; GD = G. Dahl; GDo = G. Doria; GF = G. Fiori; GFr = G. Franzini; GG = G. Gené; GGr = G. Grafitti; GK = G. Krüger; GL = G. Liberti; GLe = G. Leoni; GM = G.B. Moro; GMa = G. Mambrini; GMi = Giovanni Mariani; GMr = Giuseppe Mariani; GMu = G. Mulas; GN = G. Nardi; GO = G. Osella; GR = G. Raffone; GS = G. Scaglioni; GSa = G. Sama; GT = G. Trezzi; GTr = G.B. Traverso; HP = H. Pierotti; IB = I. Bucciarelli; LB = L. Bonometto; LC = L. Ceresa; LD = L. Diotti; LDe = L. Demarchi; LF = L. Fancello; L/L = B. & S. Lanza; LS = L. Senni; MB = M. Bologna; MBa = M. Bastianini; MBj = M. Barajon; MBr = M. Bardiani; MBu = M. Burlini; MD = M. Dellacasa; MF = M. [E.] Franciscolo; MG = M. Grottolo; MM = M. Magistretti; M/O = P. Marcia & C. Onnis; M/S = A. Molinu & A. Sassu; MSe = M. Seriani; NS = N. Sanfilippo; PA = P. Ardoin; PC = P. Cornacchia; PCe = P. Cerretti; PD = P. De Martin; PE = [?] Pavanello; PG = P. Gardella; PK = P. Kanaar; PL = P. Leo; PM = P. Magrini; PMa = P. Marcia; PN = P. Neri; PV = P. Vienna; RF = R. Fabiani; RG = R. Gestro; RL = R. Lisa; RM = R. Molinari; RMe = R. Meloni; RP = R. Poggi; RPa = R. Papi; RPi = R. Pittino; RPn = R. Pantaleoni; RPr = R. Prota; RR = R. Rossi; RS = R. Sciaky; RSe = R. Stefani; SC = S. Cafaro; S/C = D. Sechi & D. Cillo; S/C/L = D. Sechi, D. Cillo & P. Leo; SF = S. Folchini; SFe = S. Ferro; SM = S. Monzini; SP = S. Patrizi; SPi = S. Pinna; SPu = S. Puddu; SR = S. Riese; SV = S. Vit; SZ = S. Zoia; TD = T. Derosas; TL = T. Lisa; UL = U. Lostia di Santa Sofia; VB = V. Bazzoni; VG = V. Ghiliani; VI/GR = A. Virgilio & G. Grafitti; VR = V. Rosa; VV = V. Vomero; ZU = [?] Zuccato.

Collections and depositories: CAD = A. Dodero (Museo civico di Storia naturale "G. Doria", Genoa); CBC = B. Colonna (La Maddalena, Sassari); CCA = C. Alzona (Museo civico di Storia naturale, Milan); CCB = C. Baviera (Messina); CCM = C. Mancini (Museo civico di Storia naturale "G. Doria", Genoa); CCMe = C.

Meloni (Cagliari); CCP = C. Panella (Bologna); CDB = D. Baratelli (Varese); CDBi = D. Birtele (Dossobuono di Villafranca, Verona); CDM = D. Malmerendi (Museo civico di Scienze naturali, Faenza); CDS = D. Sechi (Selargius, Cagliari); CEM = E. Migliaccio (Rome); CFA = F. Angelini (Francavilla Fontana, Brindisi); CFB = F. Baudi di Selve (Museo regionale di Scienze naturali, Turin); CFC = F. Cussigh (Museo Naturalistico-Archeologico, Vicenza); CFCa = F. Callegari (Ravenna); CFP = F. Penati (Museo civico di Storia naturale "G. Doria", Genoa); CGB = G. Binaghi (Museo civico di Storia naturale "G. Doria", Genoa); CGD = G. Drioli (Museo civico di Storia naturale, Trieste); CGM = G.B. Moro (Museo civico di Storia naturale "G. Doria", Genoa); CGMr = Giuseppe Mariani (Seregno, Milan); CGMü = G. Müller (Museo civico di Storia naturale, Trieste); CGN = G. Nardi (Cisterna di Latina, Latina); CGR = G.E. Rasetti (Museo civico di Zoologia, Rome); CGRa = G. Ratto (Genoa); CIG = I. Gudenzi (Forlì); CIS = I. Scali (Prato); CIZ = I. Zappi (Casalecchio di Reno, Bologna); CLS = L. Senni (Ravenna); CMF = M. [E.] Franciscolo (Museo civico di Storia naturale "G. Doria", Genoa); CMG = M. Grottolo (Brescia); CMM = M. Magistretti (Museo civico di Storia naturale, Verona); CNBFVR = "Centro Nazionale per lo Studio e la Conservazione della Biodiversità Forestale 'Bosco Fontana'" (Verona); CPC = P. Cornacchia (Porto Mantovano, Mantua); CPE = G. Perazzini (Rimini); CPL = P. Luigioni (Museo civico di Zoologia, Rome); CPM = P. Magrini (Florence); CPV = P. Vienna (Venice); CRP = R. Poggi (Genoa); CRPa = R. Papi (Castelfranco di Sopra, Arezzo); CRPe = R. Pescarolo (Museo civico di Storia naturale, Carmagnola); CSC = S. Cafaro (Rome); CSR = S. Rocchi (Florence); CSZ = S. Zoia (Milan); CUL = U. Lostia di Santa Sofia (Dipartimento di Protezione delle Piante, Entomologia Agraria, University of Sassari); CVV = V. Vomero (Museo civico di Zoologia, Rome); DBAUT = Dipartimento di Biologia Animale e dell'Uomo, University of Turin; DPPS = Dipartimento di Protezione delle Piante, Entomologia Agraria, University of Sassari; DZS = Dipartimento di Zoologia, University of Sassari; ISE-SS = Istituto per lo Studio degli Ecosistemi, CNR (Sassari); MSNC = Museo di Storia naturale e del Territorio di Calci, University of Pisa; MSNCa = Museo civico di Storia naturale, Carmagnola (Turin); MSNG = Museo civico di Storia naturale "G. Doria", Genoa; MSNM = Museo civico di Storia naturale, Milan; MSNT = Museo civico di Storia naturale, Trieste; MSNTO = Museo regionale di Scienze naturali, Turin; MSNV = Museo civico di Storia naturale, Venice; MZRM = Museo civico di Zoologia, Rome; MZUF = Museo di Storia naturale - Sezione di Zoologia "La Specola", University of Florence; PIME = Entomological collection of the Pontificio Istituto Missioni Estere (Museo civico di Storia naturale, Milan).

Other abbreviations and recurrent terms used in Species list: ca = circa; coll. = collection; Cant. = Cantoniera [= roadman's house]; dint. = surroundings of; ex = specimen/s; ex. pl. = multiple specimens; ex-coll. = from collection; fiume = river; foce/foce del = mouth/mouth of [river]; Foresta Demaniale = region-owned forest; Isola = island; Lago = lake; leg. = legit; loc. = locality; Monte/i = Mount/s; rio = stream, small river; sd = without date of capture; stagno [di] = marsh, pond [of]; staz. FdS = station of Ferrovie della Sardegna [= Sardinian Rail].

Species list

Onthophilinae

1. *Onthophilus globulosus* (Olivier)

Onthophilus exaratus Illig.: Bargagli 1871: 42; Bertolini 1872–1878: 85; Krausse 1911: 148, 1913: 61

Literature data. "Sardinia" (Bertolini 1872–1878, 1904; Porta 1926; Luigioni 1929; Horion 1949; Barajon 1966; Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Assemini, rio Cixerri (CCMe). Cagliari, dint., on seashore (Bargagli 1871); *idem*, city, 21.X.1976, on chicken bones (used as bait), CM, 1 ex (CCMe); *idem*, Monte Urpinu (Vienna 1980); *idem*, 9.V.1973, CM, 4 ex (CPV); *idem*, 2.III.1976, on cat carcass, CM, 1

ex (CCMe); *idem*, 31.III.1976, on dog carcass in saponification stage, CM, 1 ex (CCMe). Pula, sd, UL, 3 ex (CUL). Quartu Sant'Elena, 24.I.1982, on fresh sheep droppings, CM, 1 ex (CCMe); *idem*, loc. Is Ammostus [= Amostus], sd, UL, 7 ex (CGB). Nuoro prov.: Osini, Serra di Orrolis, Grotta di [= cave of] Orroli (Puddu & Pirodda 1974; Cassola 1982). Sorgono, dint. (Krausse 1913). Strada [= road] Fonni–Desulo, on rio Aratu, 950 m, 8.V.1995, FA, 1 ex (CFA). Villanova Strisaili, dint., 1000 m, 23.V.1974, VR, 1 ex (CFP). Oristano prov.: Asuni (Krausse 1911); *idem*, 2 ex (Vienna 1971, 1980). Sedilo, 24.II.2001 (CPV). Sassari prov.: Isola Maddalena, 30.X.1994, BC, 1 ex (CBC). Sassari, dint., 3–18.IV.1952, in horse dung (Strassen 1954).

Unpublished records. "Sardinia", sd, 4 ex (CFB as *Onthophilus exaratus* Illig.). Cagliari prov.: Assemini, rio Flumini Mannu, 10.X.1989, in cow dung, CM, 3 ex (CCMe). Cagliari, sd, UL, 6 ex (CAD). San Vito, IV.1872, RG, 2 ex (MSNG). Nuoro prov.: Gairo Taquisara [= Tacquisara], IV.1872, RG, 2 ex (MSNG). Oristano prov.: Abbasanta, loc. Losa, 300 m, 15.X.1989, on cow dung, CM, 1 ex (CCMe). Sassari prov.: Golfo Aranci, IV.1909, AD, 1 ex (CAD). Scala di Giocca, I.1899, GDo, 1 ex (MSNG as *Onthophilus exaratus* Illig., det. G. Lewis, 1903).

Chorotype. 3.02 WME (W-Mediterranean).

Italian distribution. Piedmont (?), Trentino-Alto Adige (?), Liguria (?), Tuscany, Latium, Campania, Apulia, Sicily and Sardinia.

Ecology. Occurs under carcasses, on excrements, in manure, among decomposing vegetable matter, in rodent's burrows, and under rabbit hutches.

Notes. In Penati and Vienna (2005, 2006a), the data regarding the three specimens from Pula (CUL) are erroneously listed as "Cagliari, 1936, coll. Museo Genova" (see "Data Collection").

Tribalinae

2. *Epierus comptus* Erichson

Epierus comptus Illig.: Bargagli 1871: 41; Bertolini 1872–1878: 83, 1904: 48; Luigioni 1929: 364
? *Epierus nitidifrons* Gené: Giachino 1982: 351 (nomen nudum)

Literature data. "Sardinia" (Bargagli 1871; Bertolini 1872–1878, 1904; Porta 1926; Luigioni 1929; Horion 1949; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004); *idem*, sd, "gift or coll. Gené", 2 ex (Giachino 1982).

Unpublished records. "Sardinia", sd, VG, 2 ex (MSNG); *idem*, sd, UL, 1 ex (CAD). Nuoro prov.: Esterzili, Rifugio [= mountain refuge] Betilli, 15.V.1902, AD, 10 ex (CAD). Orune, sd, 1 ex (CAD ex-coll. L. Demarchi). Oristano prov.: Monte Ferru, sd, UL, 7 ex (CAD).

Chorotype. 2.04 SEU (S-European).

Italian distribution. Trentino-Alto Adige, Venetia, Tuscany, Latium, Campania, Apulia, Basilicata, Calabria, Sicily and Sardinia.

Ecology. Lives under the bark of cork oaks, dead holm oaks, pines and other tree species, under rotting vegetable matter and rotten mushrooms.

Notes. Having not found any Sardinian specimens in the many studied collections, Penati and Vienna (2002) had considered this species, previously only generically mentioned in the literature, as absent from Sardinia. However, a more thorough examination of the collections preserved at MSNG allowed me to find the above-listed specimens and to confirm the presence (at least in the past) of this taxon on the island. I also assign to *E. comptus* the two Sardinian specimens found in the Spinola collection under the name *Epierus nitidifrons* Gené (Giachino 1982). However, not having personally examined these specimens, I am unable to affirm with certainty that *Epierus nitidifrons* Gené (nomen nudum) is identical to *Epierus comptus* Erichson.

3. *Tribalus* (*Tribalus*) *minimus* (P. Rossi)

Literature data. "Sardinia" (Bargagli 1871; Bertolini 1904; Porta 1926; Luigioni 1929; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004).

Unpublished records. Cagliari prov.: San Vito, IV.1872, RG, 2 ex (MSNG).

Chorotype. 1.10 TUE (Turano-European).

Italian distribution. Lombardy, Trentino-Alto Adige, Venetia, Friuli-Venezia Giulia, Emilia-Romagna, Tuscany, Latium, Campania (?), Sicily and Sardinia.

Ecology. Occurs under stones and vegetable detritus, under bark, at the base of *Tamarix* bushes, often in association with ants of many genera.

Notes. Penati and Vienna (2005, 2006a) recorded two specimens of this species collected at Fonni and Nuoro, kept under this name in the Binaghi collection (CGB). Having examined the actual specimens, I was able to assess that they belong to *Kissister minimus* (Laporte); therefore, the occurrence on the island of *Tribalus minimus* seems to be based only on the two specimens collected at San Vito in 1872.

Histerinae

Platysomatini

4. *Platysoma* (*Cylister*) *elongatum elongatum* (Thunberg)

Platysoma oblongum F.: Bargagli 1871: 40; Bertolini 1872–1878: 82, 1904: 48; Porta 1926: 368; Barajon 1966
Platysoma (*Cylistosoma*) *oblongum* Fabr.: Luigioni 1929: 365
Cylister oblongus (Fabricius): Vienna 1980: 54
Cylister elongatus (Thunberg): Yélamos & Lackner 2004

Literature data. "All of Italy" (Bertolini 1904; Porta 1926). "Sardinia" (Bargagli 1871; Bertolini 1872–1878; Luigioni 1929; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004).

Unpublished records. Nuoro prov.: Goceano, loc. b'Uccaido, 1040 m, 24.VI.2007, under bark of *Pinus* sp., PC/GS, 4 ex (CPC).

Chorotype. 1.05 SIE (Sibero-European).

Italian distribution. Aosta Valley, Piedmont, Lombardy, Trentino-Alto Adige, Friuli-Venezia Giulia, Liguria, Emilia-Romagna, Tuscany, Marches, Campania (Vomero & Nardi 2007), Calabria, Sicily (Baviera 2006) and Sardinia.

Ecology. Mostly found under bark of recently felled conifers or conifers in the initial phases of an attack by xylophagous beetles, in hilly-mountainous habitats; feeds on larvae of Scolytinae (Coleoptera: Curculionidae).

Notes. Having not found any Sardinian specimens in the many studied collections, Penati and Vienna (2002) had considered this species, previously only generically mentioned in the literature, as absent from Sardinia. The recently captured specimens listed above confirm the "old" literature records and demonstrate the presence of the taxon on the island.

5. *Platysoma* (*Cylister*) *filiforme* Erichson

Cylister elongatus (Olivier): Vienna 1980: 338
Cylister filiformis (Erichson): Yélamos & Lackner 2004

Literature data. "Sardinia" (Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Cagliari, sd, UL, 2 ex (CUL); *idem*, Monte Urpinu (Vienna 1980); *idem*, 19.IX.1968, under bark of wooden fence, CM, 2

ex (CCMe, CPV). Elmas, sd, UL, 7 ex (CCM). Villacidro (CCMe). Nuoro prov.: Nuoro, 15 km S-SE of the city, 16.X.1985, PK, 1 ex (CPV). Seui, Foresta Mont'Arbu, rio Ermolinus, 790 m, 20.V.1983, under bark of *Alnus glutinosa*, logged trunks in shady area near river bank, CM, 1 ex (CCMe). Sassari prov.: Isola Caprera, 12.XI.1994, 1 ex (CBC).

Unpublished records. "Sardinia", sd, [UL?], 11 ex (CUL). Cagliari prov.: Assemini, Piscina Matzéu, IV.1900, UL, 1 ex (CAD). Nuoro prov.: Goceano, loc. b'Uccaido, 1040 m, 24.VI.2007, under bark of *Pinus* sp., PC & GS, 1 ex (CPC). Sassari prov.: Alghero, Monte Timidone, 11.II.1998, RPn, 2 ex (DPPS).

Chorotype. 3.01 MED (Mediterranean).

Italian distribution. Piedmont, Trentino-Alto Adige, Friuli-Venezia Giulia (?), Liguria, Emilia-Romagna, Tuscany, Umbria, Abruzzi, Apulia, Calabria, Sicily and Sardinia.

Ecology. Especially abundant in humid periods under the bark of various *Pinus* species, from sea level to mountain habitats.

Notes. In Penati and Vienna (2005, 2006a) the data referring to the two specimens from Cagliari (CUL) are wrongly given as "Assemini, Piscina Matzéu, 1937, coll. Museo Genova" (see "Data collection").

6. *Platylister* (*Popinus*) *algiricus* (Lucas)

Platysoma algiricum Lucas: Baudi di Selve 1864: 231 (note); Gemminger & Harold 1868: 757; Heyden *et al*. 1883: 91, 1891: 173; Bertolini 1904: 47; Lewis 1905: 15; Heyden *et al*. 1906: 262; Porta 1926: 368; Luigioni 1929: 365; Barajon 1966; Vienna 1980: 332

Platysoma Algiricum Luc.: Stein & Weise 1877: 64

Platysoma (*Platysoma*) *algiricum* Lucas: Bickhardt 1910: 20; Winkler 1925: 480; Mazur 1984: 238, 1997: 69; Audisio *et al*. 1995: 17

Platysoma Algirum [sic!] Luc.: Bargagli 1871: 40

Platysoma algirum [sic!] Luc. = *laevicolle* Küst.: Marseul 1882–1889: 177

Platysoma laevicolle: Küster 1850: [2]

Platysoma laevicolle Küst.: Marseul 1853: 284, 1857: 474, 1863a: 706, 1863b: 95; Bargagli 1871: 40; Bertolini 1872–1878: 82

Platysoma Algericum [sic!] Luc.: Schimdt 1885: 285

Literature data. "Sardinia" (Küster 1850; Marseul 1853, 1857, 1863a, 1863b; Baudi di Selve 1864; Gemminger & Harold 1868; Bargagli 1871; Bertolini 1872–1878; Stein & Weise 1877; Heyden *et al*. 1883; Schmidt 1885; Marseul 1882–1889; Heyden *et al*. 1891; Bertolini 1904; Lewis 1905; Heyden *et al*. 1906; Bickhardt 1910; Winkler 1925; Porta 1926; Luigioni 1929; Barajon 1966; Mazur 1984; Audisio *et al*. 1995; Yélamos 2002; Mazur 2004; Yélamos & Lackner 2004). Cagliari prov.: Sinnai, loc. Corongiu, 13.XII.1899, UL, 1 ex (CGB). Sassari prov.: Sassari, 22.V.1957, 1 ex (CGMü); *idem*, loc. Bunnari (Vienna 1980); *idem*, loc. Bunnari, 7.IV.1960, 2 ex (CPV).

Unpublished records. "Sardinia", sd, 2 ex (CFB as *Platysoma algiricum* Lucas). Sassari prov.: Sassari, 22.V.1957, 1 ex (DPPS); *idem*, loc. Bunnari, 7.IV.1960, 2 ex (DPPS).

Chorotype. 3.02 WME (W-Mediterranean).

Italian distribution. Sicily and Sardinia.

Ecology. Found under the bark of broadleaved trees.

7. *Eurosoma minor* (P. Rossi)

Platysoma frontale Payk.: Bargagli 1871: 40; Bertolini 1872–1878: 82, 1904: 48; Porta 1926: 368; Luigioni 1929: 365; Barajon 1966; Vienna 1980: 54

Platysoma frontale Payk. v. *delatum*: Baudi di Selve 1864: 231 (notes)

Platysoma frontale Payk. v. *delatum* Baudi: Gemminger & Harold 1868: 758; Stein & Weise 1877: 64; Heyden *et al*. 1883: 91, 1891: 173; Marseul 1882–1889: 177; Bertolini 1904: 48
Platysoma frontale Payk. = *delatum* Baudi: Heyden *et al*. 1906: 262
Platysoma (*Eurylister*) *minor* (P. Rossi): Audisio *et al*. 1995: 17
Eblisia minor (P. Rossi): Penati & Vienna 2002: 79, 2005, 2006a; Yélamos & Lackner 2004

Literature data. "All of Italy" (Porta 1926); "Sardinia" (Baudi di Selve 1864; Gemminger & Harold 1868; Bargagli 1871; Bertolini 1872–1878; Stein & Weise 1877; Heyden *et al*. 1883, 1891; Marseul 1882–1889; Bertolini 1904; Heyden *et al*. 1906; Luigioni 1929; Barajon 1966; Audisio *et al*. 1995; Yélamos & Lackner 2004).

Unpublished records. "Sardinia", sd, 3 ex (CFB as *Platysoma frontale* Payk. var. *delatum* Gené); *idem*, sd, UL, 2 ex (CAD). Cagliari prov.: Capoterra, loc. Is Antiogus, sd, UL, 1 ex (CAD). Gonnosfanadiga, 13–14.XII.1996, DS, 1 ex (CDS); *idem*, 3.I.1997, DS, 1 ex (DPPS). Monti dei Sette Fratelli, X.1894, UL, 5 ex (CAD). Sassari prov.: Tempio Pausania, 21.IV.1903, AD, 1 ex (CAD).

Chorotype. 1.02 PAL (Palearctic).

Italian distribution. Piedmont, Friuli-Venezia Giulia, Emilia-Romagna, Tuscany, Umbria, Marches, Latium, Campania, Abruzzi, Molise, Apulia, Basilicata, Calabria, Sicily and Sardinia.

Ecology. It occurs under the bark of logged broadleaved trees (poplars, alders, cork oaks, etc.), mainly in humid hill and mountain environments, as well as on rotting fungi.

Notes. Having not found any Sardinian specimens in the many studied collections, Penati and Vienna (2002) had considered this species, previously only generically mentioned from Sardinia in the literature, as absent from the island. A more in-depth study of the MSNG collections and of the Baudi di Selve collection (CFB) brought to light numerous specimens collected on the island in the second half of the nineteenth century and the beginning of the twentieth century, confirming the correctness of the literature records. The recent records demonstrate the ongoing presence of the species in Sardinia. Baudi di Selve, in his handwritten catalogue of the collection, ascribed the authorship of the variety *delatum* to Gené, probably based on an *in litteris* description; however, this variety has always been ascribed to Baudi himself, as he was the first to use this name in a printed work (Baudi di Selve 1864).

Histerini

8. *Margarinotus* (*Ptomister*) *brunneus* (Fabricius)

Hister cadaverinus Hfm.: Bargagli 1871: 41; Bertolini 1872–1878: 83; Costa 1883: 40; Bertolini 1904: 48; Porta 1926: 370; Luigioni 1929: 366; Strassen 1954: 269; Barajon 1966
Margarinotus (*Ptomister*) *cadaverinus* (Hoffmann): Vienna 1980: 53

Literature data. "All of Italy" (Bertolini 1904; Porta 1926). "Sardinia" (Bargagli 1871; Bertolini 1872–1878; Luigioni 1929; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Burcéi, IV.1937, UL, 1 ex (CUL). Cagliari, sd, UL, 1 ex (CUL).; *idem*, Colle San Michele, 12.XI.1980, on dog carcass, CM, 1 ex (CCMe); *idem*, city, 8.V.1989, in cat litter, CM, 1 ex (CCMe); *idem*, Monte Urpinu, 19.IX.1970, CM, 1 ex (MSNTO ex-coll. P. Vienna); *idem*, 16.IX.1976, on cat carcass, CM, 2 ex (CCMe). Elmas, pineta [= pine stand] San Lorenzo, 1.VIII.1976, under rubbish bag, CM, 1 ex (CCMe). Monti dei Sette Fratelli, loc. Campuomu, 400 m, 4.V.1985, on rotting fruit, CM, 1 ex (CCMe); *idem*, loc. Maidopis and homonymous rio, 350 m, 21.VI.1986, in pitfall trap baited with meat, CM, 1 ex (CCMe). Sant'Isidoro, 5.V.1982, under rubbish bag, CM, 1 ex (CCMe). Villagreca, Monte Coa Margine, 200 m, 1.XI.1990, CM, 2 ex (CCMe). Nuoro prov.: Bruncu Spina, NW slope, rio Aratu, 1997 (CSZ). Desulo, dint., 900 m, 14–16.IV.1952, on fresh donkey carcass, ex. pl. (Strassen 1954). Macomer, loc. Bara, staz. FdS, 650 m, 9.X.1981, on dog carcass, CM, 2 ex (CCMe). Orgosolo, Foresta di Montes, 5.V.1986, DB, 7 ex (6 CDB, 1

CPF). Sarùle, dint., 600 m, 3.VI.1989, under rubbish bag, CM, 1 ex (CCMe). Oristano prov.: Cabras, dint., 23.IX.1976, on ox bones, CM, 1 ex (CCMe). Oristano, fiume Tirso, Ponte Mannu, 18.IV.1976, on ox bones, CM, 1 ex (CCMe). Ozieri, VIII.1931, 1 ex (CGB). Sassari prov.: Monte Limbara, 11–14.VI.1882, ACo (Costa 1883).

Unpublished records. Cagliari prov.: Giara di Gesturi, 580 m, 4.V.1978, RP, 14 ex (MSNG). San Vito, IV.1872, RG, 2 ex (MSNG). Villacidro, 5.VI.2002, DS, 1 ex (CDS); *idem*, rio Cannisoni, 401 m, 19–24.V.2006, pitfall trap (baited with bones), PC/MBr/DBi/DW, 1 ex (CNBFVR). Villamar, dint., 1.XI.1990, on ox bones, CM, 1 ex (CCMe). Nuoro prov.: Aritzo, 7.VI.1901, AD, 2 ex (CAD); *idem*, Su Pranu, 3.V.1968, 1 ex (DPPS). Seui, 7.V.1902, AD, 2 ex (CAD). Oristano prov.: Oristano, 20.V.1976, SR, 1 ex (CGRa); *idem*, 30.IV.1982, SR, 1 ex (CGRa). Sassari prov.: Sassari, in town, XI.1994, DS, 1 ex (CDS); *idem*, loc. Giordano, 23.II.1996, AM, 7 ex (DPPS); *idem*, 15.II.1997, AM, 1 ex (DPPS). Tempio Pausania, 14.V.1908, AD, 2 ex (CAD).

Chorotype. 1.05 SIE (Sibero-European).

Italian distribution. All regions except Molise.

Ecology. Found under carcasses and in faeces, from the littoral to high mountains; recorded also in manure heaps, birds' nests and rotting fungi.

Notes. The specimen from Ozieri was attributed by Penati and Vienna (2002, 2005, 2006a) to *Margarinotus* (*Ptomister*) *merdarius* (Hoffmann), because it was identified as such in the Binaghi collection; having personally examined the specimen I can affirm with certainty that it belongs in reality to *M. brunneus*. Moreover, in Penati and Vienna (2005, 2006a) the data concerning the specimen from Cagliari (CUL) are erroneously given as "Sìnnai, Corongiu, 1937, coll. Museo Genova", whereas the specimen from Burcéi (CUL) was listed as *Atholus corvinus* (Germar) (for both errors see "Data collection").

9. *Pactolinus major* (Linnaeus)

Hister major L.: Bargagli 1871: 40; Bertolini 1872–1878: 83; Costa 1882: 18, 1883: 40; Bertolini 1904: 48; Krausse 1910: 179; Porta 1926: 368; Grandi 1957: 158, 160; Piras *et al*. 1970: 83; Piras & Pisano 1972: 12
Hister (*Macrolister*) *major* Lin.: Luigioni 1929: 365
Macrolister major Linné: Strassen 1954: 269; Barajon 1966; Vienna 1971: 289, 1980: 52

Literature data. "All of Italy" (Bertolini 1872–1878, 1904; Porta 1926). "Sardinia" (Luigioni 1929; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004). "Diffuso per varii luoghi" [= "occurring in various places"], IX.1881 (Costa 1882). Cagliari prov.: Burcei, Punta Serpeddì, 900–1000 m, 18.X.1985, under large stone, CM, 1 ex (CCMe); *idem*, 7.VI.1987, roaming, CM, 1 ex (CCMe). Cagliari, sd, UL, 1 ex (CUL); *idem*, VII.1920, 1 ex (MSNG); *idem*, V.1937, ES, 1 ex (MSNT); *idem*, 10.V.1949, MBj, 1 ex (CFP); *idem*, 4.V.1956, EC, 1 ex (CFP); *idem*, 17.IV.1973, under stone, CM, 1 ex (MSNTO ex-coll. P. Vienna). Cagliari, dint. (Bargagli 1871); *idem*, IV–VI.1882, "qualche individuo errante per le vie" [= "a few individuals found wandering on the roads"], ACo (Costa 1883); *idem*, sd, 1 ex (CDM); *idem*, Monte Claro, 2.IV.1980, on decomposing dog carcass, CM, 1 ex (CCMe); *idem*, 12.IV.1988, under damp cardboard, CM, 1 ex (CCMe); *idem*, Monte Urpinu, 26.IV.1970, roaming, CM, 2 ex (CCMe); *idem*, 22.V.1970 and 25.IV.1971, CM, 2 ex (CPV); *idem*, loc. Poetto, behind beach, 17.VI.1988, at the base of *Thymelea hirsuta*, CM, 1 ex (CCMe); *idem*, port, Calata Trinitari, 20.V.1973, CM, 1 ex (CPV); *idem*, San Bartolomeo region (Bargagli 1871); *idem*, sd, 1 ex (CDM); *idem*, stagno di Molentargius, beach (Bargagli 1871); *idem*, 29.V.1988, CM, 4 ex (CGN). Capoterra, rio Santa Lucia, 19.VI.1978, roaming, CM, 1 ex (CCMe), *idem*, 19.V.1985, roaming, CM, 1 ex (CCMe). Castiadas, Costa Rey, 25.V.1988, GBe, 2 ex (CRPa); *idem*, Monte Nai, 16.V.1982, roaming, CM, 1 ex (CCMe). Domus de Maria, VI.1954, LC, 1 ex (MSNM); *idem*, stagno s'Acqua Dulci, 27.IV.1985, roaming, CM, 1 ex (CCMe). Domusnovas, dint. Grotta [= cave] San Giovanni, 11.V.1988, roaming, CM, 1 ex (CCMe). Geremeas, rio Geremeas, 29.V.1978, roaming near river bank, CM, 1 ex (CCMe). Giara di Gesturi [= Planu sa Giara], 19.V.1955, LC, 1 ex (MSNM). Gonnosfanadiga, dint.,

19.II.1978, roaming, CM, 2 ex (CCMe); *idem*, 30.III.1991, DS, 1 ex (CEM). Guasila, IX.1947, CA, 3 ex (CGM). Isola di San Pietro, 1931 (CPL); *idem*, Carloforte (Bargagli 1871); *idem*, south-eastern coast, IV–XII.1970 and VI–XII.1971, 4 + 5 ex (Piras & Pisano 1972). Isola di Sant'Antioco, VI.1956, EM, 3 ex (MSNM); *idem*, Cala Saboni, 2.III.1980, roaming, CM, 1 ex (CCMe); *idem*, northern coast, IV–XII.1969, IV–XII.1970 and VI–XII.1971, 3 + 3 + 7 ex (Piras & Pisano 1972); *idem*, Cussorgia, 12.VI.1989, RP, 1 ex (MSNG); *idem*, loc. Mercureddu, 18.IV.1982, under stone, CM, 1 ex (CCMe); *idem*, 1982 (CRPe); *idem*, 14.VIII.1987, RM, 1 ex (CFP); *idem*, loc. Sant'Antioco, 14.VIII.1987, RM, 1 ex (CFP). Monti dei Sette Fratelli, 1.IV.1990, SC, 1 ex (CSC); *idem*, south-eastern slope, 800 m, 18.VI.1954, GMi, 2 ex (MSNM); *idem*, loc. Maidopis and homonymous rio, 350 m, 28.VI.1984 and 2.VI.1986, roaming, CM, 2 ex (CCMe); *idem*, Monte Cresia, 700 m, 11.X.1985, under large, non-embedded stone, CM, 1 ex (CCMe); *idem*, 2.V.1982 and 11.VIII.1988, roaming, CM, 2 ex (CCMe). Orto Zinnigas Siliqua (Bargagli 1871). Pabillonis, loc. Is Arenas, 30.X.1983, under stone on sandy terrain, CM, 1 ex (CCMe); *idem*, 3.X.1986, roaming in sheep shed, CM, 1 ex (CCMe). Pirri, 12.IV.1979, roaming, CM, 1 ex (CCMe). Porto Botte, IV–XII.1970 and VI–XII.1971, 1 + 1 ex (Piras & Pisano 1972). Porto Pino, IV–XII.1970, 2 ex (Piras & Pisano 1972). Porto Scuso (Bargagli 1871). Portovesme, beach, 20.IV.1971, roaming, CM, 1 ex (CCMe). Pula, loc. Santa Margherita, 29.V.1937, ES, 1 ex (MSNT). Quartu Sant'Elena, loc. Capitana, rio Cuba, 14.V.1978, roaming, CM, 1 ex (CCMe); *idem*,Quartu beach, 14.V.1975, under cow bone, CM, 1 ex (CCMe); *idem*, stagno di Simbirizzi, 27.I.1985, roaming, CM, 2 ex (CCMe). Quirra, Castello di Quirra, 23.IV.1986, on fresh cow dung, CM, 1 ex (1 CCMe). Siliqua, 15.VI.1954, GMi, 1 ex (MSNM). Sulcis, coast between Porto Vesme and Matzaccara, IV–XII.1969 and IV–XII.1970, 3 + 2 ex (Piras & Pisano 1972); *idem*, Monte Arcosu, 200 m, 30.V.1996, LS, 1 ex (CLS). Teulada, 5 ex (CIZ). Villamassargia, 1976 (MSNCa). Villaputzu, 24.V.1972, PD, 1 ex (Vienna & Ratti 1999). Villaputzu, exposed bed of river Flumendosa, 24.V.1972, GB, 1 ex (CGB); *idem*, 24.V.1972, IB, 1 ex (CVP); *idem*, 4.VI.1972, GB, 2 ex (CGB). Villasalto, dint., 570 m, 11.XI.1979, roaming, CM, 1 ex (CCMe). Villasimius, Cala Pira, 16.V.1982, under stone, CM, 1 ex (CCMe). Villaspeciosa, dint., 13.VI.1982, one half-fresh ox dung, CM, 1 ex (CCMe). Nuoro prov.: Aritzo, 1–5.VII.1936, FH, 1 ex (MSNG). Belvì, 6.X.1973, CM, 1 ex (MSNTO ex-coll. P. Vienna). Bosa, fiume Temo, 22.V.1940, MBj, 5 ex (CFP). Dorgali, 26.V.1920, 1 ex (CGB). Fonni, 3.X.1970, EC, 1 ex (CFP). Girasole, dint., 11.IV.1978, roaming, CM, 1 ex (CCMe). Lula, Monte Turuddò, 11.VI.1985, DB, 1 ex (CDB). Macomer, loc. Aresu, sd, 2 ex (MSNTO). Monte Albo, 1980 (CIG); *idem*, dint. Cant. Guzzurra, 800 m, 4.V.1995, FA, 1 ex (CFA); *idem*, dint. Punta Gurfugius, 30.V.1982, PN, 1 ex (Vienna & Ratti 1999). Nurri, loc. Padenti [= Padonti-Nurri], 14.VIII.1941, ES, 3 ex (2 MSNT, 1 CGMü). Ortueri, dint., 800 m, 30.V.1972, GMi, 1 ex (MSNM). Perdasdefogu, V–VI.1963, GR, 1 ex (CPV). Porto Santoru, VI.1936, FH, 1 ex (MSNG). Seui, 1991, 1 ex (CFCa). Siniscola, 1980 (DBAUT). Sorgono, 690 m, 4.XI.1973, roaming, CM, 1 ex (CVP). Tortolì, 20.V.1955, 1 ex (CGMü). Oristano prov.: Arborea, loc. Cirras, 29.IV.1982, roaming in sandy field, CM, 2 ex (CCMe); *idem*, stagno di s'Ena Arrubia, 29.IV.1982, roaming, CM, 1 ex (CCMe). Asuni, 1 ex (Vienna 1971). Cabras, dint., IV–XII.1969, 15 ex (Piras *et al.* 1970); *idem*, Turri Seu, 29.V.1996, LS, 1 ex (CLS). Capo Mannu, VII.1973 (MSNM); *idem*, 22.V.1974, GBa, 4 ex (MSNG). Monte Arci, 2.VI.1999 (CPV). Narbolia, 1 ex (CIZ). Oristano, IV–VI.1882, ACo (Costa 1883); *idem*, dint. (Krausse 1910); *idem*, V.1948, 1 ex (PIME); *idem*, foce del Tirso, 11.VI.1977, under cow bones, CM, 1 ex (CCMe); *idem*, stagno di Mistras, 27.X.1976, under large, non-embedded stone, CM, 1 ex (CCMe); *idem*, Torre Grande, 31.V.1974, IB, 1 ex (CFP); *idem*, 3.V.1980, GT, 2 ex (CDB). Putzu Idu, 22.V.1974, GBa, 1 ex (MSNG); *idem*, 1.VI.1974, IB, 1 ex (CFP); *idem*, 29.VI.1974, BB, 1 ex (CFP). Riola Sardo, dint., IV–XII.1969, 23 ex (Piras *et al.* 1970); *idem*, IX.1978, SM, 2 ex (CDB). San Giovanni di Sinis, 19.V.1995, FA, 4 ex (CFA). San Vero Milis, dint., IV–XII.1969, 9 ex (Piras *et al.* 1970). Santa Giusta, 18.XI.1979, roaming, CM, 1 ex (CCMe). Sinis, San Salvatore, IV–XII.1969, 18 ex (Piras *et al.* 1970); *idem*, Torre del Sevo, IV–XII.1969, 2 ex (Piras *et al.* 1970). Spiaggia [= beach] is Arenas, 1998, GMr (CGMr). Sassari prov.: Alghero, 1.V.1948, MBj, 1 ex (CFP); *idem*, 20.IX.1964, 1 ex (CPV); *idem*, dint., 18.V.1974, BB, 1 ex (CFP); *idem*, on beach of port, 23.V.1974, MF, 1 ex (CMF). Isola Asinara, VII.1903, SF, 1 ex (MSNG). Isola Piana [dell'Asinara], 4.VIII.1986, RP, 1 ex (MSNG). Marghine, 5.V.1936, MBj, 4 ex (CFP). Monte Limbara, VI.1936, MBj, 3 ex (CFP). Olbia, 24.V.1974, IB, 1 ex (MSNTO ex-coll. P. Vienna); *idem*, 4.IV.1997, at the foot of an olive tree, SV, 1 ex (MSNG); *idem*, dint. north, 2.VI.1953, GMi, 2 ex (MSNM); *idem*, dint. south,

2.VI.1953, GMi, 1 ex (MSNM); *idem*, dint., 23.V.1974, VR, 1 ex (CFP); *idem*, sd, 2 ex (MSNTO). Porto Torres, dint., 7–9.IV.1952, on sandy road (Strassen 1952); *idem*, 5.VI.1953, GMi, 2 ex (MSNM); *idem*, 15.IX.1956, 1 ex (MSNG); *idem*, foce del rio Mannu, 21.V.1974, on beach walking towards dead fish, CM, 1 ex (MSNTO ex-coll. P. Vienna); *idem*, beach, 25.V.1995, FA, 1 ex (CFA). Santa Teresa Gallura, 9.V.1975, BB, 1 ex (CFP); *idem*, dint., 3.V.1984, roaming, CM, 1 ex (CCMe); *idem*, loc. Porto Pozzo, 1995 (MSNCa). Sassari, sd, 1 ex (CDM); *idem*, 23.III.1951 (MSNM); *idem*, 24.V.1954, 1 ex (MSNG); *idem*, 15.V.1955, 1 ex (CGMü); *idem*, dint., 3–18.IV.1952, in cow dung on fields (Strassen 1954); *idem*, Lago di Baratz, dint., 12–29.V.1956 (Grandi 1957); *idem*, 29.VI.1999, PC/GS, 1 ex (CPC); *idem*, loc. Platamona, 2.VI.1952, LC, 1 ex (MSNM); *idem*, 1974 (CRPe); *idem*, 21.V.1974, VP, 1 ex (CVP); *idem*, stagno di Pilo, V.1960, 1 ex (Vienna 1971); *idem*, stagno di Platamona, 18.V.1974, VR, 1 ex (CFP); *idem*, 19.V.1974, BB, 1 ex (CFP). Stintino, 10.VI.1962, 2 ex (MSNG); *idem*, 29.V.1964, 1 ex (Vienna 1971); *idem*, Punta Negra, 15.VII.1998, GMa, 1 ex (CPC); *idem*, spiaggia [= beach] della Pelosa, 20.IV.1974, GA, 2 ex (CGB); *idem*, stagno Casaraccio, 21.V.1974, BB, 1 ex (CFP). Tempio Pausania, dint., 550 m, 19.IV.1952, cork oak stand (Strassen 1954). Tissi, plain of Rio Mascari, 12–29.V.1956, in excrements (Grandi 1957).

Unpublished records. "Sardinia", sd, 1–2 ex (CFB, as *Hister major* Lin.); *idem*, sd, UL, 6 ex (1 CAD, 5 CUL); *idem*, sd, 1 ex (MSNG ex-coll. L. Fea); *idem*, sd, 1 ex (CFP ex-coll. M. Barajon). Cagliari prov.: Arbus, passo Bidderdi, 492 m, 2.IV.1995, roaming, CM, 1 ex (CCMe). Cagliari, V.1902, AD, 2 ex (CAD); *idem*, 30.IV.1952, 1 ex (DPPS). Capoterra, rio Santa Lucia, 19.V.1985, roaming, CM, 4 ex (3 CGN, 1 CPC). Castiadas, 14.IV.1966, 1 ex (DPPS). Furtei, rio Flumini Mannu, 90 m, 6.V.1999, roaming, CM, 1 ex (CCMe). Isola di Sant'Antioco, Calasetta, VII.2003, 1 ex (CNBFVR, ex-coll. M. Armeni); *idem*, stagno Is Pruinis, 12.VII.1998, roaming, CM, 1 ex (CCMe). Muravera, 23.II.1965, 1 ex (DPPS). Nebida, altopiano [= plateau] Campumari, 190 m, 6.III.2001, roaming, CM, 1 ex (CCMe). Pabillonis, loc. Is Arenas, 7.V.1968, 1 ex (DPPS). Pula, sd, UL, 1 ex (CUL). Quirra, Castello di Quirra, 23.IV.1986, on fresh cow dung, CM, 4 ex (3 CGN, 1 CPC). San Vito, IV.1872, RG, 2 ex (MSNG). Santadi, 7.IV.1884, AD, 1 ex (CAD). Sant'Anna Arresi, Cala sa Baracca [= Porto su Trigu], 5–48 m, 18.XI.1998 and 13.XII.1998, roaming on sand dunes, CM, 2 ex (CCMe). Sarrabus, sd, GTr, 2 ex (MSNG as *Hister major* L., det. G. Lewis, 1903). Senorbì, 10.XI.1974, CM, 1 ex (CFP). Teulada, 2.V.1912, 1 ex (CAD). Uta, 1.IV.2000, LF, 1 ex (CFP). Vallermosa, 3.II.1960, EC, 1 ex (DPPS). Villasimius, Punta Molentis, 26.IV.1998, roaming on half-sandy terrain, CM, 1 ex (CCMe). Nuoro prov.: Aritzo, VIII.1911, AD, 1 ex (CAD); *idem*, loc. Su Pranu, 18.V.1967, 2 ex (DPPS); *idem*, loc. Is Bandidos, provincial road n. 295, 1000 m, 22.V.2004, in cow dung, D/F, 1 ex (MSNC). Bari Sardo, 19.V.1991, GMu, 2 ex (CCB). Baronia, Caletta di Osalla, 11.VII.2000, PC, 1 ex (CPC). Dorgali, Monte Coazza, 200 m, 28.IV.1992, roaming, CM, 1 ex (CCMe); *idem*, Monte Tului, 24.V.1980, MF, 1 ex (CMF). Dualchi, 250 m, 29.XII.1990, roaming, CM, 1 ex (CCMe). Escalaplano, 6.VII.1966, 1 ex (DPPS). Fiume di Posada, 24.V.1976, RP, 1 ex (CRP). Lula, V.1929, AD, 2 ex (CAD). Macomer, 15.VIII.1984, 1 ex (DPPS). Monte Albo, NW slope, 700 m, 18.V.2003, RP, 1 ex (MSNG); *idem*, Funtana 'e Deus, 640 m, 6.IX.1999, RPa, 1 ex (CRPa); *idem*, loc. Janna Portellitos, 680 m, 19.VII.1989, roaming, CM, 1 ex (CCMe). Orgosolo, sd, 1 ex (DPPS). Orosei, foce fiume Cedrino, 27.IV.1983, ADg, 1 ex (CGRa); *idem*, Monte Senes, 29.VI.1998, TL, 3 ex (CPM). Pattada, 550 m, 1.V.1978, RP, 1 ex (MSNG). Sadali, fiume Flumendosa, 750 m, 21.VII.1996, AL, 1 ex (MZUF). Seui, 24.IV.1909, AD, 1 ex (CAD). Siniscola, Santa Lucia, 4.IX.1999, RPa, 1 ex (CRPa). Oristano prov.: Arborea, 3.V.2004, LF, 1 ex (CFP). Capo Mannu, 8.IV.1968, 1 ex (DPPS); *idem*, 22.IV.1971, 3 ex (DPPS); *idem*, 5.V.1978, RP, 2 ex (MSNG). Narbolia, dint. Nuraghe Tradori, loc. Is Arenas, 16.VI.2003, MD, 1 ex (MSNC). Oristano, 15.VI.1956, 1 ex (DPPS); *idem*, 21.V.1966, 1 ex (DPPS). Torre Grande, IV.1985, SR, 1 ex (CCMe); *idem*, 30.IV.1997, SR, 1 ex (MSNG). Sassari prov.: Alghero, 20.IX.1964, 4 ex (DPPS); *idem*, Capo Caccia, 31.V.1965, 1 ex (DPPS); *idem*, Porto Conte, 20.VI.1957 and 9.V.1958, 1 + 2 ex (DPPS); *idem*, Porto Ferro, 15.V.1969, 1 ex (DPPS). Arzachena, Cannigione, loc. Madonna del Lago, 20 m, 24.VIII.2005, cow dung, exposed, D/F, 1 ex (MSNC). Castelsardo, 25.V.1960 and 2.VI.1965, 3 ex (DPPS); *idem*, VI.1964, A/C, 1 ex (MSNG). Golfo Aranci, sd, AD, 1 ex (CAD). Isola Asinara, Cala d'Arena, 1.VII.1987, VV, 1 ex (MZRM); *idem*, dint. Campu Perdu, 20.VII.2003, MD 1 ex (MSNC); *idem*, dint. Fornelli, 20 m, 20.V.2004, in horse dung, MD, 1 ex (MSNC); *idem*, dint. Elighe Mannu, 280 m, 21.V.2004, MD, 1 ex (MSNC). Ploaghe, VI.1949, ASe, 1 ex (DPPS); *idem*, 15.X.1965, 2 ex (DPPS).

Porto Torres, 21.V.1967, 1 ex (DPPS). Pozzomaggiore, 30.VI.1958, 1 ex (DPPS). Punta lu Caparoni, S slope, 10.IX.2003, MD, 1 ex (MSNC). San Pantaleo, loc. Litarru Rulu, 2.VI.2004 and 8.VII.2004, CF, 2 ex (MSNC). Sassari, 7.VI.1958, 1 ex (DPPS); *idem*, loc. Argentiera, 17.V.1966 and 22.V.1966, 2 ex (DPPS); *idem*, stagno di Pilo, 15.III.2002, ADg, 1 ex (MSNG). Scala di Giocca, I.1899, GDo, 1 ex (MSNG as *Hister major* L., det. G. Lewis, 1903). Stintino, 30.V.1976, RP, 1 ex (CRP). Tempio Pausania, 20.VI.1959, 1 ex (DPPS). Between Tissi and Usini, 2.VI.1964, A/C, 1 ex (MSNG).

Chorotype. 3.01 MED (Mediterranean).

Italian distribution. Piedmont, Trentino-Alto Adige, Venetia, Liguria, Emilia-Romagna, Tuscany, Latium, Campania, Abruzzi, Apulia, Basilicata, Calabria, Sicily and Sardinia.

Ecology. Found in cow and horse dung; not rare also under stones or roaming during the hottest hours of the day.

Notes. One of the most common and widespread histerids of Sardinia.

10. *Hister helluo* Truqui

Literature data. Nuoro prov.: Bari Sardo, fiume Pelau, 11.IV.1976, roaming along the banks, CM, 1 ex (Penati & Vienna 2002; CCMe).

Unpublished records. Cagliari prov.: Arbus, 3.VI.2000, LF, 1 ex (CFP). Nuoro prov.: Aritzo, loc. Castiau, staz. FdS, 500–550 m, 3.VII.1983, in cow dung, CM, 1 ex (CCMe).

Chorotype. 2.01 EUR (European).

Italian distribution. Piedmont, Lombardy, Trentino-Alto Adige, Venetia, Liguria, Tuscany, Basilicata, Calabria and Sardinia.

Ecology. Found mainly on alders, where it preys upon larvae of the leaf beetle *Agelastica alni* (Linnaeus) (Coleoptera Chrysomelidae); sometimes found also in dung, in rot holes of trees and on carcasses.

11. *Hister illigeri illigeri* Duftschmid

Hister sinuatus Illig.: Bargagli 1871: 41; Bertolini 1872–1878: 83; Costa 1883: 40; Bertolini 1904: 48; Krausse 1910: 179; Porta 1926: 371; Grandi 1957: 158; Piras *et al*. 1970: 83; Piras & Pisano 1972: 12

Hister uncinatus Illig.: Krausse 1907: 287; Luigioni 1929: 367; Strassen 1954: 269; Barajon 1966; Vienna 1980: 53

Literature data. "All of Italy" (Bertolini 1904; Porta 1926). "Sardinia" (Bertolini 1872–1878; Luigioni 1929; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004). "Diffuso per molte parti dell'isola, entro lo sterco bovino" [= "Widespread throughout the island, in cow dung"], IV–VI.1882, ACo (Costa 1883). Cagliari prov.: Assemini, rio Flumini Mannu, 26.III.1989, in cow dung, CM, 1 ex (CCMe). Capoterra, foce del rio Santa Lucia, 6.IV.1976, in cow dung, CM, 1 ex (CCMe); *idem*, 4.VI.1981, on dog carcass, CM, 1 ex (CCMe); *idem*, 15.V.1989, in cow dung, CM, 1 ex (CCMe). Decimomannu, rio Flumineddu, 25.V.1977, in cow dung, CM, 1 ex (CCMe). Giara di Gesturi, 19.V.1955, GMi, 6 ex (MSNM); *idem* [= Planu sa Giara], 19.V.1955, LC, 18 ex (15 MSNM, 3 CGMü); *idem*, loc. Funtana s'Ala de Mengiana, 14.IV.1990, RM, 9 ex (CFP); *idem*, Pauli Majori di Tuili, 570 m, 27.VI.1989, in horse dung, CM, 2 ex (CCMe); *idem*, 21.VI.1991, in cow dung, CM 10 ex (CCMe). Guasila, IV.1946, CA, 3 ex (CGM). Guspini, dint., 120 m ca, 16.V.1995, 15 ex (CFA). Isola di San Pietro, 500 m, 15–21.V.1961 (MSNM); *idem*, Carloforte, 1.V.1968, 1 ex (CPV); *idem*, south-eastern coast, IV–XII.1969 and IV–XII.1970, 3 + 1 ex (Piras & Pisano 1972); *idem*, central plain, 100–150 m, IV–XII.1969, IV–XII.1970 and VI–XII.1971, 4 + 2 + 8 ex (Piras & Pisano 1972). Isola di Sant'Antioco, central hills, 270 m ca, IV–XII.1969 and IV–XII.1970, 6 + 6 ex (Piras & Pisano 1972); *idem*, northern coast, IV–XII.1969, IV–XII.1970 and VI–XII.1971, 3 + 1 + 6 ex (Piras & Pisano 1972). Monte Santu Miai, 500 m ca, IV–XII.1969 and IV–XII.1970, 2 + 1 ex (Piras & Pisano 1972).

Monti dei Sette Fratelli, Monte Cresia, 700 m, 7.II.1982 and 2.V.1982, in cow dung, CM, 3 ex (CCMe). Porto Botte, IV–XII.1969, IV–XII.1970 and VI–XII.1971, 1 + 6 + 2 ex (Piras & Pisano 1972). Porto Pino, IV–XII.1969, IV–XII.1970 and VI–XII.1971, 9 + 16 + 6 ex (Piras & Pisano 1972). Pula, sd, UL, 1 ex (CUL); *idem*, loc. Pixina Manna, 700 m, 24.VI.1992, in cow dung, CM, 2 ex (CCMe). San Nicolò Gerrei, Cant. Pranu Sanguini, 620 m, 29.III.1986, in cow dung, CM, 1 ex (CCMe). Siliqua, dint., 28.V.1972, GMi, 2 ex (MSNM). Sulcis, coast between Porto Vesme and Matzaccara, IV–XII.1969, IV–XII.1970 and VI–XII.1971, 1 + 2 + 3 ex (Piras & Pisano 1972). Teulada, Capo Malfatano, 3.IV.1986, in cow dung, CM, 1 ex (CCMe). Nuoro prov.: Arbatax, 11.VI.1980, ZU, 5 ex (4 CDB, 1 CFP). Aritzo, Arcu Guddetorgiu, 850–1050 m, 9.V.1995, FA, 2 ex (CFA); *idem*, loc. Ortuabis, staz. FdS, 776 m, 2.VI.1994, in cow dung, CM, 2 ex (CCMe); *idem*, loc. Castiau, staz. FdS, 520 m, 29.IV.1984, in cow dung, CM, 1 ex (CCMe); *idem*, valico [= pass] sa Casa, 1040 m, 19.V.1982, in cow dung, CM, 1 ex (CCMe). Arzana, loc. Siccaderba, 850 m, 25.IV.1983, in cow dung, CM, 2 ex (CCMe). Badde Salighes–Monte Palai, 1000 m, 22.V.1955, GMi, 1 ex (MSNM). Baunei, Monte Lopene, 700 m, 8.VI.1982, in cow dung, CM, 1 ex (CCMe). Belvì, 19.V.1974, GBa, 1 ex (MSNG). Catena [= mountain chain] del Marghine, NE slopes, road from Bolotana to Burgos, 22.V.1995, FA, 1 ex (CFA); *idem*, 1000 m, 1.VI.1972, GMi, 1 ex (MSNM). Dorgali, dint., 11.IV.1978, in cow dung, CM, 2 ex (CCMe). Flumendosa, sd, 6 ex (CIS). Fonni, Monte Spada, mountain refuge, 1300 m, 25.VII.1986, CM, 2 ex (CCMe). Giara di Gesturi, Pauli Majori di Genoni, 10.V.1995, FA, 20 ex (CFA). Girasole, dint., 11.IV.1978, in cow dung, CM, 2 ex (CCMe). Laconi, loc. Funtanamela, staz. FdS, 714 m, 19.V.1982, in cow dung, CM, 1 ex (CCMe). Macomer, 25.IV.1979, LD, 6 ex (CFA); *idem*, sd (MSNM); *idem*, rio Columbos, 4.VI.1974, CM, 2 ex (MSNTO ex-coll. P. Vienna); *idem*, stagno di Bara, 600 m, 23.V.1955, GMi, 1 ex (MSNM); *idem*, VIII.1964, FT, 3 ex (CFP). Manasudda, 29.V.1920, 1 ex (CGB). Meana Sardo, dint. staz. FdS, 600 m, 4.V.1983, in cow dung, CM, 1 ex (CCMe). Monte Albo, dint. Cant. Guzzurra, 800 m, 4.V.1995, FA, 1 ex (CFA). Monti del Gennargentu, loc. Bruncu Spina, 1800 m, 24.V.1974, VR, 1 ex (CFP); *idem*, 7.V.1995, 1570 m, FA, 1 ex (CFA); *idem*, Passo Caravai, 1100 m, 8.VI.1996, LS, 2 ex (CLS); *idem*, Punta Lamaide, 18.VI.1965, 1 ex (MSNG ex-coll. G. Fiori);*idem*, Punta La Marmora, 1990 (CCP). Nurallao, 29.IV.1973, in cow dung, CM, 1 ex (CCMe). Nurri, loc. Padenti [= Padonti-Nurri], 14.VIII.1941, ES, 1 ex (3 CGMü). Oniferi, 22.V.1940, MBj, 1 ex (CFP). Ortueri, dint., 500 m, 30.V.1972, GMi, 5 ex (MSNM). Rio d'Oliena, 22.V.1940, MBj, 2 ex (CFP). San Mauro, rio Otieri, 30.V.1972, IB, 1 ex (CPV). San Teodoro, 3.V.1995, FA, 1 ex (CFA). Seui, dint., 1998, GMr (CGMr); *idem*, loc. San Girolamo, staz. FdS, 800 m, 27.VI.1985, in cow dung, CM, 1 ex (CCMe); *idem*, Monte Arbo, 750 m, 14.VI.1984, CM, 3 ex (CCMe). Sindia, 16.V.1974, cow dung, CM, 1 ex (CFP); *idem*, 4.VI.1974, 1 ex (MSNTO ex-coll. P. Vienna); *idem*, 6.IV.1986, CM, 3 ex (CCMe). Road between Sorgono and Tonara, 900 m, 30.V.1972, GMi, 1 ex (MSNM). Urzulei, 31.V.1982, GT, 3 ex (CDB); *idem*, 9.VI.1986, DB, 2 ex (CDB). Villanova Strisaili, dint. 1000 m, 23.V.1974, VR, 31 ex (16 CFP, 8 MSNTO ex-coll. P. Vienna, 7 CPV). Oristano prov.: Arborea, loc. Cirras, 29.IV.1982, in cow dung, CM, 2 ex (CCMe); *idem*, stagno di s'Ena Arrubia, 29.IV.1982, in cow dung, CM, 1 ex (CCMe). Brabau, 7.VI.1974, CM, 1 ex (MSNTO ex-coll. P. Vienna). Cabras, dint., IV–XII.1969, 7 ex (Piras *et al.* 1970). Marrubiu, loc. Sant'Anna, 8.V.1970, under cow excrements, CM, 1 ex (CPV). Oristano, dint., IV–V.1907, in dung, ex. pl. (Krausse 1907); *idem*, sd (Krausse 1910); *idem*, 20.V.1964, CM, 1 ex (CPV); *idem*, river Tirso, Ponte Mannu, 20.II.1977, on dog carcass, CM, 1 ex (CCMe); *idem*, foce del Tirso, 27.III.1974, CM, 3 ex (1 MSNTO ex-coll. P. Vienna, 2 CPV). Riola Sardo, dint., IV–XII.1969, 19 ex (Piras *et al.* 1970). San Giovanni Sinis, dint., IV–XII.1969, 6 ex (Piras *et al.* 1970). San Vero Milis, dint., IV–XII.1969, 11 ex (Piras *et al.* 1970). Sinis, Capo San Marco, IV–XII.1969, 2 ex (Piras *et al.* 1970); *idem*, Is Benas, IV–XII.1969, 7 ex (Piras *et al.* 1970); *idem*, Mari Ermi, IV–XII.1969, 2 ex (Piras *et al.* 1970); *idem*, San Salvatore, IV–XII.1969, 14 ex (Piras *et al.* 1970); *idem*, Torre del Sevo, IV–XII.1969, 15 ex (Piras *et al.* 1970). Spiaggia [= beach] is Arenas, 1998, GMr (CGMr). Zeddiani, stagno di Mare Foghe, 17.VI.1954, GMi, 1 ex (MSNM). Sassari prov.: Aglientu, 1998 (MSNCa). Alghero (CGR). Badesi, foce del Coghinas, 30.VI.1995, in trap baited with wild boar meat, RPa, 1 ex (CRPa). Chilivani, 3.VI.1953, GMi, 3 ex (MSNM). Golfo Aranci, 2.V.1995, FA, 2 ex (CFA). Isola Asinara, Diga Ruda, 15.V.1988, RP, 8 ex (MSNG); *idem*, dint. Campu Perdu, 2003 (MSNC); *idem*, dint. Trabuccato, 2003 (MSNC). Isola Maddalena, 22.V.1994, BC, 3 ex (CBC). Isola Rossa, 200 m, 20.VI.1995, RPa, 2 ex (CRPa). Isola Tavolara, sd, 2 ex (MSNTO). Marghine, 5.V.1936, MBj, 3 ex (CFP).

Monte Limbara, VI.1936, MBj, 2 ex (CFP). Olbia [= Terranova Pausania], 10.V.1920, 4 ex (CGB); *idem*, dint., sd, 2 ex (MSNTO). Oschiri, dint., 180 m ca, 28.V.1995, FA, 1 ex (CFA). Pattada, artificial water basin, 1990 (CCP). Porto Torres, 19.V.1974, VR, 1 ex (CFP). Pozzomaggiore, VII.1973, LB, 4 ex (Vienna & Ratti 1999). Santa Teresa Gallura, 14.VIII.1959, RR, 1 ex (MSNM); *idem*, loc. Culuccia, 15.V.1989, BC, 1 ex (CBC). Sassari, 15.VI.1951, 1 ex (CGMü); *idem*, urban area, loc. Logulentu, 15.VI.1958, 3 ex (1 CGMü, 1 DPPS, 1 MSNG). Stintino, 21.V.1974, ER, 1 ex (Vienna & Ratti 1999). Tempio Pausania, dint., 550–1100 m, 19.IV.1952 (Strassen 1954). Tissi, plain of Rio Mascari, 12–29.V.1956, in excrements (Grandi 1957). Valle Bunnari, sd, 2 ex (CDM); *idem*, 11.IV.1966, GSa, 1 ex (CPV). Villanova Monteleone, 500 m, 14.IV.1990, RM, 1 ex (CFP).

Unpublished records. "Sardinia", sd, 1–3 ex (CFB as *Hister sinuatus* Ill.); *idem*, sd, UL, 13 ex (2 CAD, 11 CUL). Cagliari prov.: Arbus, 3.VI.2000, LF, 1 ex (CFP); *idem*, Passo Bidderdi, 492 m, 9.IV.1995, DS, 1 ex (CDS); *idem*, in cow dung, CM, 1 ex (CCMe). Calangianus, 18.IV.1966, 5 ex (DPPS). Castiadas, 13.V.1965, 1 ex (DPPS). Giara di Gesturi, 16.VII.1968, 1 ex (DPPS); *idem*, 580 m, 4.V.1978, RP, 3 ex (MSNG); *idem*, 300 m ca, 14.IV.1990, RM, 1 ex (CFP). Guspini, loc. Santa Maria di Neapolis, 8.V.1968, 2 ex (DPPS). Isola di San Pietro, loc. Carloforte, 30.IV.1968, 1 ex (DPPS). Monte Linas, SW slope, road to Cabrulazzu, 7.IV.2004, in sheep dung, MD, 1 ex (MSNC). Muravera, stagno di Colostrai, 15.VI.1982, in cow dung, CM, 1 ex (CCMe). Pabillonis, loc. Is Arenas, 7.V.1968, 1 ex (DPPS). Porto Botte, 6.V.1976, AB, 1 ex (CGRa). Santadi, 7.IV.1884, AD, 3 ex (CAD). Sant'Andrea Frius, 18.VI.1966, 1 ex (DPPS). Sarrabus, IV.1872, RG, 1 ex (MSNG). Silius, 18.VI.1966, 1 ex (DPPS). Solanas, loc. Santa Barbara, 30.III.2008, in cow dung, CM, 1 ex (CCMe). Nuoro prov.: Aritzo, loc. Is Bandidos, provincial road n. 295, 1000 m, 22.V.2004, in cow dung, D/F, 8 ex (MSNC); *idem*, loc. Su Pranu, 18.V.1967, 2 ex (DPPS); *idem*, valico [= pass] sa Casa, 19.V.1967, 1 ex (DPPS). Bitti, 5.VIII.1966, 1 ex (DPPS). Desulo, Arcu Guddetorgiu, 1120 m, 20.V.1998, on cow dung, CM, 2 ex (CCMe); *idem*, loc. Badu Carrada [?], 18.VI.1965, 1 ex (DPPS); *idem*, Genna 'e Nughe, 1100 m, 30.IV.2003, in cow dung, CM, 1 ex (CCMe). Esterzili, dint. and Staz. FdS Betili, 519–530 m, 14.V.1994, on pig dung, CM, 1 ex (CCMe); *idem*, loc. Taccu Mauroi, 640–650 m, 25.IV.2008, in half-fresh cow dung, CM, 4 ex (CCMe). Fonni, rio Dudulu, 19.VI.1965, 14 ex (DPPS). Macomer, Monte Sant'Antonio, 9.XI.1909, AD, 1 ex (CAD); *idem*, 800 m, 3.V.1978, RP, 1 ex (MSNG); *idem*, loc. sa Serra, 650–700 m, 31.III.1996, in cow dung, CM, 1 ex (CCMe); *idem*, stagno di Bara, 600 m, 29.V.1977, in cow dung, CM, 2 ex (CCMe). Monte Albo, 800 m, 24.V.1976, RP, 1 ex (CRP); *idem*, 700–900 m, 22.VI.2007, in cow dung, PC, 1 ex (CPC). Monti del Gennargentu, 6.VII.1967, 4 ex (DPPS); *idem*, Passo Correboi, 16.V.1966 and 17.VI.1966, 2 ex (DPPS); *idem*, 18.V.2001, DS, 1 ex (CDS); *idem*, Punta Lamaide, 18.VI.1965, 1 ex (DPPS); *idem*, Punta La Marmora, 1834 m, 7.VI.1995, in cow dung, CM, 1 ex (CCMe); *idem*, 12.VI.2001, DS, 1 ex (CDS). Orgosolo, loc. Funtana Bona, 31.V.1966, 1 ex (DPPS); *idem*, Monte Fumau, 12.VI.1965, 6 ex (DPPS); *idem*, Monte [Novo] San Giovanni, 20.VI.1965, 4 ex (DPPS); *idem*, 1300 m, 29.V.1999, RP, 6 ex (MSNG); *idem*, Monti Cuccurù and Paza, 19.VI.1998, TL, 3 ex (CPM). Orosei, Monte Senes, 29.VI.1998, TL, 1 ex (CPM). Pratobello, dint., 850 m, 22.V.2004, in cow dung, D/F, 4 ex (MSNC). San Teodoro, stagno di San Teodoro, 1.V.1978, RP, 1 ex (MSNG). Seui, Monte Tonneri, 1000–1200 m, 6.VII.1997, on cow dung, CM, 1 ex (CCMe); *idem*, loc. San Girolamo, rio Anus, 775–790 m, 19.VI.1991, on cow dung, CM, 1 ex (CCMe). Road from Atzara to Aritzo, 8 km after Atzara, 540 m, 3.IV.2004, in cow dung, D/F, 1 ex (MSNC). Supramonte di Orgosolo, Foresta Demaniale Montes, 600 m, Flumineddu, 30.IV.1983, RP, 1 ex (MSNG); *idem*, Foresta Demaniale Montes, 1000 m, rio Olai, 2.V.1983, RP, 1 ex (MSNG). Talana, 7.IV.2000, DS, 1 ex (CDS); *idem*, dint., 1000 m ca, 19.V.1980, 1 ex (CGRa). Urzulei, Supramonte, loc. Fennau, 950 m, 30.IV.1993, in cow dung, CM, 1 ex (CCMe). Ussassai, dint., 750 m, 14.V.1994, in cow dung, CM, 1 ex (CCMe). Villagrande Strisaili, Cant. Pira 'e Onni, 14.VI.2002, DS, 1 ex (CDS). Oristano prov.: Oristano, 20.VII.1957, 1 ex (DPPS). Stagno di San Giuseppe, 21.V.1955, GMi, 1 ex (MSNM). Sassari prov.: Aglientu, Lu Colbu, 27.V.1976, RP, 6 ex (CRP). Alà dei Sardi, 15.V.1907, AD, 1 ex (CAD). Alghero, 16.IV.1902, AD, 1 ex (CAD). Berchidda, loc. Silvani, 23.VI.2003, MD, 4 ex (MSNC). Chilivani, VI.1952, LC, 2 ex (MSNM). Golfo Aranci, sd, AD, 1 ex (CAD). Isola Asinara, 22.VI.1967, SR, 2 ex (CGRa); *idem*, dint. Cala Reale, 20 m, 21.V.2004, in horse dung, MD, 2 ex (MSNC); *idem*, dint. Campu Perdu, 20 m, 19.V.2004, in horse dung, MD, 6 ex (MSNC); *idem*, 19.VI.2004, in horse dung, 1 ex (MSNC); *idem*, 20.VI.2004, in horse dung, 1 ex (MSNC); *idem*, 20.VI.2003, 1 ex

(MSNC). Nulvi, 25.V.1974, MF, 7 ex (CMF). Nurra, dint. Ezimannu, 10 m, 2.IV.2004, in sheep dung, D/F, 1 ex (MSNC); *idem*, Punta lu Caparoni, E slopes, 300–400 m, 8.IV.2004, in cow dung, D/F, 1 ex (MSNC). Olbia:, loc. Enas, 1.V.1978, RP, 2 ex (MSNG). Oschiri, 23.V.1976, RP, 1 ex (CRP). Osilo, V.1974, MF, 25 ex (CMF); *idem*, loc. sa Mela, 24.V.1974, MF, 1 ex (CMF). Ozieri, 10.IV.1902, AD, 4 ex (CAD). Perfugas, 27.V.1962, 1 ex (DPPS). Ploaghe, 13.V.1892, AD, 1 ex (CAD). Sassari, 23.V.1955, 5.IV.1959, 10.IV.1965, 4.VI.1965 and 19.III.1977, 9 ex (DPPS). Stintino, dint., 29.III.1993, in cow dung, CM, 1 ex (CCMe). Telti, 26.V.1976, RP, 1 ex (CRP). Tempio Pausania, 7.IV.1902, AD, 7 ex (CAD); *idem*, 14.V.1902, 1 ex (CAD); *idem*, V.1935, MBu, 2 ex (CUL); *idem*, 5.V.1970, 1 ex (DPPS).

Chorotype. 1.07 CAE (Centralasiatic-European).

Italian distribution. All regions except Aosta Valley.

Ecology. Mainly found in various types of dung, but can also be found on carcasses and under decomposing vegetable matter.

Notes. Probably the most common histerid of Sardinia.

12. *Hister lugubris* Truqui

Literature data. "Sardinia" (Bargagli 1871; Bertolini 1872–1878, 1904; Porta 1926; Luigioni 1929; Horion 1949; Barajon 1966; Audisio *et al*. 1995; Yélamos & Lackner 2004). Nuoro prov.: Badde Salighes (Vienna 1980); *idem*, 22.V.1955, LC, 2 ex (1 CGMü, 1 MSNM). Sassari prov.: Chilivani, rio Mannu (Vienna 1980); *idem*, 21.V.1974, IB, 1 ex (CPV).

Chorotype. 1.10 TUE (Turano-European).

Italian distribution. Piedmont, Lombardy, Trentino-Alto Adige, Venetia, Friuli-Venezia Giulia, Emilia-Romagna, Tuscany, Latium, Campania, Apulia, Basilicata and Sardinia.

Ecology. Found in spring on excrements, preferably cow dung, and under stones; seems to prefer arid substrates. In Los Monegros (Spain) it has been reported from highly saline soils.

13. *Hister pustulosus* Gené

Literature data. "*Negli escrementi dei bufali e dei cavalli della Sardegna media e boreale in primavera ed estate*" [= "In the excrements of cow buffaloes and horses of central and northern Sardinia in spring and summer"] (Gené 1839 [translated from the Latin original]; Bargagli 1871). "Sardinia" (Marseul 1854, 1857, 1863a, 1863b; Baudi di Selve 1864; Gemminger & Harold 1868; Bertolini 1872–1878; Stein & Weise 1877; Heyden *et al*. 1883; Schmidt 1885; Marseul 1882–1889; Heyden *et al*. 1891; Bertolini 1904; Heyden *et al*. 1906; Winkler 1925; Porta 1926; Luigioni 1929; Barajon 1966; Mazur 1984; Audisio *et al*. 1995; Mazur 1997, 2004; Yélamos & Lackner 2004); *idem*, "gift or coll. Gené", 2 ex (Giachino 1982). Cagliari prov.: Giara di Gesturi, Pauli Palla Camisa, 580 m, sd, under stone, CM, 1 ex (CCMe). Isola di San Pietro, 5.III.1979, 2 ex (CPV); *idem*, Carloforte, 17.IV.1912, AD, 2 ex (CAD); *idem*, dint. Carloforte, 26.III.1978 and 27.I.1980, under stones, CM, 3 ex (CCMe). San Nicolò Gerrei, dint., 350 m, 2.X.1980, in cow dung, CM, 1 ex (CCMe); *idem*, Cant. Pranu Sanguni, 620 m, 25.VIII.1975, under stone, CM, 1 ex (CCMe). Sant'Andrea Frius, dint., 250–300 m, 8.III.1980, under stone, CM, 1 ex (CCMe); *idem*, 1980 (CRPe). Nuoro prov.: Badde Salighes, 1.VI.1971, IB, 3 ex (1 CCMe, 2 CPV); *idem*, Monte Palai (Vienna 1980). Badde Salighes and Monte Palai, 1000 m, 22.V.1955, GMi, 7 ex (6 MSNM, 1 CFP); *idem*, ES, 2 ex (CGMü). Baunei, 800 m, 15.IV.1990, RM, 1 ex (CFP). Borore, dint., 10.I.1982, under stone, CM, 1 ex (CCMe). Campeda-Bolotana, 31.III.1972 (CVV). Cant. Giustizieri, 740 m, 12.IV.1982, banks of pond, L/L, 2 ex (CPV). Genna Serbene, 750 m, 25.IV.2003, ADg, 4 ex (CFP). Macomer, Monte Sant'Antonio, 17.IV.1909, AD, 1 ex (CAD); *idem*, stagno di Bara (Vienna 1980); *idem*, 600 m, 14.V.1974, under stone, CM, 1 ex (CPV); *idem*, 18–25.III.1979 and 9.X.1981, under stones, 3 ex (CCMe); *idem*, 6.IV.1986, in cow dung, CM, 1 ex (CCMe). Monti del Marghine (Vienna 1980). Nurri, 8.X.1941, ES, 2 ex (1 MSNT, 1 CGMü); *idem*, Pran 'e Muro [= Plano e Muro], 18.IX.1941, ES,

1 ex (CGMü). Seui, sd, AD, 15 ex (12 CGB, 1 CFP, 2 CGMü); *idem*, Monte Arquerì, 12–26.V.1926, 1 ex (Vienna 1971, 1980); *idem*, sd, AD, 12 ex (CGB); *idem*, 950–1000 m, 6.VIII.1985, in cow dung, CM, 1 ex (CCMe); *idem*, Monte Tonneri, 950–1000 m, 6.VIII.1985, in cow dung, CM, 2 ex (CCMe). Urzulei, dint., 31.V.1982, GT, 2 ex (1 CDB, 1 CFP). Sassari prov.: Alà dei Sardi, 15.V.1907, AD, 4 ex (CAD). Benetutti (Vienna 1980). Olbia, dint., sd, 1 ex (MSNTO). Pattada, 27.V.1962, NS, 2 ex (MSNG). Santa Teresa Gallura, loc. Porto Pozzo (CCMe). Tempio Pausania, 14.V.1908, AD, 18 ex (15 CGB, 3 CCM); *idem*, sd (CPL); *idem*, VI.1918, AF, 1 ex (MSNG).

Unpublished records. "Sardinia", sd, 4 ex (CFB); idem, sd, 1–3 ex (CFB as *Hister pustulosus* Gené var.); *idem*, sd, LDe, 1 ex (CAD ex-coll. L. Demarchi). Cagliari prov.: Burcei, Punta Serpeddì, sd, UL, 1 ex (CAD). Nuoro prov.: Altopiano [= plateau] di Campeda, 650 m, 6.V.1978, RP, 1 ex (MSNG); *idem*, 25.V.1980, MF, 2 ex (CMF). Desulo, loc. Bruncu Spina, 2.IV.2000 (CPV). Esterzili, 6.VI.2006, LF, 8 ex (MSNG); *idem*, loc. Taccu Mauroi, 640–650 m, 25.IV.2008, in half-fresh cow dung, CM, 1 ex (CCMe). Macomer, 19.VI.1984, 1 ex (DPPS). Meana Sardo, 10.VIII.1984, 1 ex (DPPS). Monte Novo San Giovanni, 1300 m, 29.IV.1983, RP, 1 ex (MSNG). Monti del Marghine, 800 m, 3.V.1978, RP, 1 ex (MSNG). Nuoro, sd, 1 ex (CUL). Orune, sd, 1 ex (CAD ex-coll. L. Demarchi). Seui, 7.V.1902, AD, 4 ex (CAD); *idem*, 24.IV.1909, 5 ex (CAD). Supramonte di Orgosolo, Foresta Demaniale Montes, 1000 m, rio Olai, 2.V.1983, RP, 1 ex (MSNG). Valico [= pass] di Genna Sarbene, dint., 761 m, 18.VIII.2005, D/F, cow dung, exposed, 1 ex (MSNC). Sassari prov.: Benetutti, 10.V.1964, 1 ex (DPPS). Isola Spargi, 12.IV.1980, under stone, GC, 1 ex (CCMe). Ozieri, 10.IV.1902, AD, 1 ex (CAD). Tempio Pausania, 7.IV.1902, AD, 11 ex (CAD).

Chorotype. Corso-Sardinian-Sicilian endemic.

Italian distribution. Sicily and Sardinia.

Ecology. Usually found in cow dung and, secondarily, in horse dung; seems to be associated with hill/mountain habitats.

Notes. In Penati and Vienna (2005, 2006a) some data are erroneously indicated: the locality of capture of the two specimens from Seui (CGMü), as "Senis", and the data referring to the specimen from Nuoro (CUL), as "Punta Serpeddì, 1937, coll. Museo Genova" (see "Data collection").

14. *Hister quadrimaculatus* Linnaeus

Hister quadrimaculatus Lin. v. *gagates* Illg.: Bertolini 1872–1878: 83
Hister quadrimaculatus Fab.: Costa 1883: 40
Hister 4-maculatus L.: Bertolini 1904: 48

Literature data. "All of Italy" (Bertolini 1904; Porta 1926). "Sardinia" (Bargagli 1871; Bertolini 1872–1878; Bickhardt 1910; Luigioni 1929; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Ballao, 12.III.1998 (CPV). Cagliari, city, 5.VI.1982, in cat litter, CM, 1 ex (CCMe); *idem*, Monte Claro, 1.IV.1980, on sheep dung, CM, 1 ex (CCMe). Elmas, 17.VII.1977, in cow dung, CM, 1 ex (CCMe). Monti dei Sette Fratelli, Monte Cresia, 700 m, 5.V.1982, CM, 2 ex (CCMe). Villaspeciosa, dint., sd (CCMe). Nuoro prov.: Altopiano di Olai, VII.1939, 1 ex (Vienna 1971). Isili, dint., 420 m, 29.VI.1973, in cow dung, CM, 1 ex (CCMe). Macomer, loc. Cabudebbene, 22.IV.1974, CM, 3 ex (CPV). Macomer, stagno di Bara, 600 m, 23.V.1955, GMi, 1 ex (MSNM); *idem*, VIII.1964, FT, 1 ex (CFP); *idem*, 30.IV.1974, CM, 1 ex (MSNTO ex-coll. P. Vienna); *idem*, 27.IV.1980, CM, 1 ex (CCMe); *idem*, 6.IV.1986, CM, 2 ex (CGN, CPC). Meana Sardo, staz. FdS, 600 m, 4.VI.1983, CM, 1 ex (CCMe). Monte Arquerì, 22.V.1962, MM, 1 ex (CMM). Nuoro (Müller 1955). Nuragus, loc. Perdadda, 340 m, 24.III.1978, under stone, CM, 1 ex (CCMe). Nurri, Pran 'e Muro [= Plano e Muro], 18.IX.1941, ES, 4 ex (CGMü). Sindia, 24.V.1974, CM, 1 ex (CPV). Oristano prov.: Abbasanta, dint., 300 m, 11.II.1982, under stone, CM, 1 ex (CCMe). Paulilatino, dint. staz. FdS, 250 m, 26.II.1986, under stone, CM, 1 ex (CCMe); *idem*, rio Pitziu, 22.II.1971, CM, 1 ex (MSNTO ex-coll. P. Vienna). San Vero Milis, stagno Sale Porcus, 25.IV.1982, under stone, CM, 1 ex (CCMe). Sassari prov.: Arzachena, sd, LC, 3 ex (MSNM). Monte Limbara, foot, plain named "vuccaccia", 11.VI.1882, near fox

carcass, ACo (Costa 1883). Nulvi, 24.V.1974, MF, 4 ex (CMF). Osilo, 24.V.1974, MF, 5 ex (CMF). Palau, III.1943, RF, 1 ex (CMM).

Unpublished records. "Sardinia", sd, 1 ex (CFB); *idem*, sd, UL, 1 ex (CAD); *idem*, sd, GLe, 3 ex (CGMü). Cagliari prov.: Domusnovas, dint. sa Duchessa, 350 m, strada per [= road to] Perda Niedda, 8.VI.2004, small stream in holm oak wood, collected by hand, GN, 1 ex (CNBFVR). Iglesias, Genna Bogai, 5.II.2004, LF, 1 ex (MSNG). Nuoro prov.: Aritzo, VIII.1911, AD, 1 ex (CAD); *idem*, loc. Su Pranu, 10.VII.1967, 1 ex (DPPS). Arzana, loc. Siccaderba, 850 m, 25.IV.1983, in cow dung, CM, 1 ex (CCMe). Belvì, rio Occile, 500 m, 21.VII.2001, in sheep fleece, CM, 1 ex (CCMe). Bosa, 15.V.1966, EC, 1 ex (DPPS). Fonni, rio Dudulu, 19.VI.1965, 5 ex (DPPS). Laconi, loc. Funtamela, staz. FdS and dint., 714–720 m, 24.V.1995, on cow dung, CM, 1 ex (CCMe). Macomer, loc. Bara, staz. FdS, 650 m, 9.X.1981, on dog carcass, CM, 1 ex (CCMe); *idem*, loc. sa Serra, 650–700 m, 31.III.1996, in cow dung, CM, 1 ex (CCMe). Monte Albo, 600–800 m, 30.VI.2004, PC/GS, 1 ex (CPC). Orgosolo, sd, 1 ex (MZUF). Seui, 7.V.1902 and 24.IV.1909, AD, 3 ex (CAD). Urzulei, Supramonte, loc. Fennau, 950 m, 30.IV.1993, in cow dung, CM, 1 ex (CCMe). Oristano prov.: Abbasanta, rio Merchis, 300 m, 1.II.1989, under stone, CM, 1 ex (CCMe). Oristano, 20.V.1976, SR, 1 ex (CGRa); *idem*, 28.IV.1987, SR, 1 ex (CGRa). Villa Verde [= Bannari], 10.V.1908, AD, 1 ex (CAD). Sassari prov.: Alà dei Sardi, 15.V.1907, AD, 1 ex (CAD). Alghero, loc. Scala Picada, 23.III.1957, 2 ex (DPPS). Sassari, 15.IV.1902, AD, 1 ex (CAD); *idem*, loc. Argentiera, 9.IV.2006, LF, 1 ex (MSNG). Tempio Pausania, 21.IV.1903, AD, 1 ex (CAD); *idem*, 27.VI.1950, 1 ex (DPPS).

Chorotype. 1.09 TEM (Turano-Europeo-Mediterranean).

Italian distribution. All regions except Aosta Valley.

Ecology. Occurs on excrements, decomposing vegetable matter and carcasses, but is often also found under stones or roaming on the ground generally at medium-low altitudes: indeed, in the whole of central and northern Italy it remains below 600 m, whereas in the south and the islands it is sometimes found at higher elevations.

15. *Hister unicolor unicolor* Linnaeus

Literature data. "All of Italy" (Bertolini 1904; Porta 1926). "Sardinia" (Bargagli 1871; Bertolini 1872–1878; Luigioni 1929; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Cagliari, loc. Bingia Matta, 21.III.1973, CM, on dog carcass, 1 ex (CCMe).

Chorotype. 1.05 SIE (Sibero-European).

Italian distribution. All regions except Molise.

Ecology. Found prevalently on cow dung, more rarely on horse dung, and in manure, but can also occur on carcasses, in rot holes of trees, micromammal burrows and in rotten fungi. Seems to be associated with montane or at most hilly habitats, with a lower limit of 400–500 m in Italy; only exceptionally found at lower elevations.

Notes. No other data are known to me apart from those above. This suggests that the species is extremely rare in Sardinia, while it is amongst the most common and widespread in the hilly-montane areas of central-northern mainland Italy.

16. *Merohister ariasi* (Marseul)

Literature data. Nuoro prov.: Urzulei, Gola di Gorroppu, 9.VI.1995, DB, 1 ex (Penati 1999; Penati & Vienna 2002; CDB).

Chorotype. 2.04 SEU (S-European).

Italian distribution. Friuli-Venezia Giulia, Tuscany, Umbria, Marches, Latium, Apulia, Basilicata, Sicily (Baviera 2006) and Sardinia.

Ecology. It lives in soil accumulated in rot holes of old trunks of cork oaks and other broadleaved trees, where it feeds on larvae. According to Penati (1999), the only specimen known from Sardinia was found inside a rot hole in the trunk of an old holm oak, together with adults of the beetle *Potosia opaca* (Fabricius) (Coleoptera: Cetoniidae).

17. *Atholus bimaculatus* (Linnaeus)

Hister bimaculatus L.: Bargagli 1871: 41; Bertolini 1872–1878: 83, 1904: 48; Barajon 1966
Hister bimaculatus var. *morio* Schmidt: Krausse 1913: 61
Hister (*Atholus*) *bimaculatus* Lin.: Porta 1926: 372
Hister (*Peranus*) *bimaculatus* Lin.: Luigioni 1929: 368

Literature data. "All of Italy" (Bertolini 1904; Porta 1926). "Sardinia" (Bargagli 1871; Bertolini 1872–1878; Luigioni 1929; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Assémini, rio Cixerri, 30.VII.1989, on cow dung, CM, 2 ex (CCMe); *idem*, rio Flumini Mannu, 11.VII.1990, on cow dung, CM, 1 ex (CCMe). Cagliari, Monte Claro, 5.VII.1980, on cow dung, CM, 1 ex (CCMe). Domus de Maria, Capo Malfatano, 3.IV.1986, CM, 1 ex (CCMe). Fluminimaggiore, 1990, 1 ex (CFCa). Giara di Gesturi, 19.V.1955, GMi, 1 ex (MSNM); *idem* [= Planu sa Giara], 19.V.1955, LC, 3 ex (MSNM); *idem*, Pauli Majori di Tuili, 570 m, 25.VI.1986, on cow dung, CM, 4 ex (CCMe). Isola di Sant'Antioco, loc. Calasetta, 27.IX.1980, RP, 1 ex (MSNG); *idem*, non-specified locality, 20.IX.2001 (CPV). Monti dei Sette Fratelli, Monte Cresia, 700 m (CCMe). Pabillonis, loc. Is Arenas, 1.XI.1986, on a dead sparrow, CM, 1 ex (CCMe); *idem*, 14.XI.1989, on cow dung, CM, 1 ex (CCMe). Pula, sd, UL, 1 ex (CUL). Sanluri, staz. FdS, 26.IX.1976, on dog carcass, CM, 1 ex (CCMe). Sant'Antonio di Santadi, 26.IX.1980, RP, 1 ex (MSNG). Teulada, 3 ex (CIZ). Villasalto, foresta rio Tolu, 400 m, 2.X.1980, on cow dung, CM, 1 ex (CCMe). Nuoro prov.: Aritzo, 1–5.VII.1936, FH, 1 ex (MSNG); *idem*, dint., 700 m, 17.X.1976, on cow dung, CM, 1 ex (CCMe). Belvì, rio S'Iscara, 650 m, 25.IX.1977, on cow dung, CM, 1 ex (CCMe). Budoni, loc. Tanaunella, 2.IX.1999, on sheep dung, RPa, 4 ex (CRPa). Flumendosa, ex. pl. (CIS). Fonni, V.1974, VR, 1 ex (PIME). Giara di Gesturi, Pauli Majori di Genoni, 530 m, 10.V.1995, FA, 1 ex (CFA). Laconi, loc. Funtanamela, staz. FdS, 714 m (CCMe). Monte Albo, 650 m, 19.VII.1987, ER, 1 ex (Vienna & Ratti 1999). Nurri, Pran 'e Muro [= Plano e Muro], 18.IX.1941, ES, 1 ex (CGD). San Teodoro, spiaggia [= beach] La Cinta, 3.IX.1999, on sheep dung, RPa, 1 ex (CRPa). Seui, foresta Mont'Arbu, rio Ermolinus, 790 m, 20.V.1983, on cow dung, CM, 1 ex (CCMe); *idem*, loc. San Girolamo, staz. FdS, 800 m, 27.VI.1985 and 25.VI.1987, on cow dung, CM, 6 ex (CCMe); *idem*, Monte Arquerì, 950–1000 m, 6.VIII.1985, on cow dung, CM, 1 ex (CCMe); *idem*, Monte Tonneri, 950–1000 m, 6.VIII.1985, on cow dung, CM, 2 ex (CCMe). Sorgono, dint. (Krausse 1913). Villanova Strisaili, 1000 m, 23.V.1974, VR, 1 ex (CPV). Oristano prov.: Abbasanta, loc. Losa, 300 m, 15.X.1989, on cow dung, CM, 3 ex (CCMe). Sassari prov.: Alghero, "La Speranza", VII.1973, LB, 2 ex (Vienna & Ratti 1999). Badesi, foce del Coghinas, 30.VI.1995, in trap baited with wild boar meat, RPa, 2 ex (CRPa). Golfo Aranci, 2.V.1995, FA, 1 ex (CFA). Illorai, dint. Fiume Tirso, Molia necropolis, 10.VI.1994, BC, 1 ex (CBC). Isola Maddalena, 22.V.1994, BC, 6 ex (CBC). Isola Rossa, 200 m, 20.VI.1995, RPa, 2 ex (CRPa). Santa Teresa Gallura, 14.VIII.1959, RR, 12 ex (MSNM); *idem*, 1980, 1 ex (CFCa).

Unpublished records. Cagliari prov.: Cagliari, sd, UL, 1 ex (CAD). Giara di Gesturi, 16.VII.1968, 1 ex (DPPS). Guspini, loc. Santa Maria di Neapolis, 8.V.1968, 1 ex (DPPS). Isola di San Pietro, Punta delle Oche, 28.V.1968, 1 ex (DPPS). Pabillonis, loc. Is Arenas, 15.X.1967, 8 ex (DPPS). San Nicolò Gerrei, rio Baccanali, 370 m, 15.VII.1997, on cow dung, CM, 2 ex (CCMe). Nuoro prov.: Aritzo, Arcu Sos Tragos, 1000–1100 m, 26.IX.1999, on cow dung, CM, 7 ex (CCMe). Esterzili, loc. Taccu sa Pruna, 635–650 m, 15.VII.1997, on cow dung, CM, 1 ex (CCMe). Monti del Gennargentu, 6.VII.1967, 1 ex (DPPS). Orune, sd, 1 ex (CAD ex-coll. L. Demarchi). Ottana, 19.VII.1974, 7 ex (DPPS); *idem*, 27.VIII.1974, 2 ex (DPPS); *idem*, 28.XI.1975, 2 ex (DPPS). Seui, Monte Tonneri, 1000–1200 m, 6.VII.1997, on cow dung, CM, 1 ex (CCMe). Sassari prov.: Berchidda, loc. Silvani, 16.VI.2003, MD, 1 ex (MSNC); *idem*, dint. Monte Acuto, 280 m, 22.VIII.2005, D/F, cow dung, exposed, 2 ex (MSNC). Isola Asinara, dint. Fornelli, 17.VI.2003, MD, 1 ex

(MSNC); *idem*, dint. Trabuccato, 18.VI.2003, MD, 1 ex (MSNC). Oschiri, 23.V.1976, RP, 1 ex (CRP). Palau, Golfo delle Saline [= Cala Salinas], X.1875, leg. "crociera del Violante", 1 ex (MSNG). Punta lu Caparoni, S slope, 10.IX.2003, MD, 1 ex (MSNC). Santa Teresa Gallura, loc. Porto Pozzo, 16.VIII.1989, dry meadow, in cow dung, GN, 3 ex (2 CGN, 1 CPC). Telti, 26.V.1976, RP, 1 ex (CRP).

Chorotype. Cosmopolitan, absent from Australia and the Antarctic (Yélamos 2002; Mazur 2004).

Italian distribution. All regions.

Ecology. Mainly found in excrements, especially cow dung, and in manure; commonly found also under stones and in various decomposing matter; Vienna (1980) recorded it also from wild rabbit burrows.

Notes. In Penati and Vienna (2005, 2006a) the data referring to the specimen from Pula (CUL) are wrongly indicated as "Monti del Gennargentu, 1937, coll. Museo Genova" (see "Data collection").

18. *Atholus debeauxi* (Moro)

Hister De-Beauxi: Moro 1942: 108
Hister de-beauxi Moro: Moro 1971: 78; Barajon 1966
Hister debeauxi Moro: Vienna 1980: 283

Literature data. "Sardinia" (Mazur 1984; Audisio *et al*. 1995; Mazur 1997, 2004; Yélamos & Lackner 2004). Cagliari prov.: Fluminimaggiore, 1.V.1973, CM, 2 ex (CPV). Guspini, loc. Santa Sofia (Vienna 1980). Pabillonis, loc. Is Arenas, 15.X.1967, ACr, 1 ♀ (DPPS; Moro 1971, Vienna 1980). Nuoro prov.: Monti del Gennargentu, 6.VII.1967, RPr, 2 ♂♂ (Moro 1971; Vienna 1980). Ottiolu, 1991, 1 ex (CFC). Rio d'Oliena, 22.V.1940, MBj, 1 ex (CFP). Sassari prov.: Isola Asinara, VIII.1903, SF, holotypus ♀ (Moro 1942, 1971; Barajon 1966; Vienna 1980).

Unpublished records. "Sardinia", sd, 1 ex (CFB as *Hister siculus* Tourn.). Cagliari prov.: Silius, 18.VI.1966, 1 ex (DPPS). Villacidro, Monte Mannu, 20.V.2006, DS, 1 ex (CDS). Nuoro prov.: Monte Albo, 27.IV.2002, DS, 1 ex (CDS). Seui, loc. San Girolamo, rio Anus, 775–790 m, 19.VI.1991, on cow dung, CM, 1 ex (CCMe).

Chorotype. Sardo-Corsican endemic.

Italian distribution. Sardinia.

Ecology. Nothing is known of the ecology of this species, but it is probably similar to that of its congeners.

Notes. The collector of the holotype is Silvio Folchini and not A. Folchini as erroneously stated by Moro (1942). Of great interest is the finding of one specimen of *Atholus debeauxi* in the Baudi di Selve collection (CFB), where it is identified as *Hister siculus* Tournier (now *Atholus siculus*) and kept together with a Sicilian specimen truly belonging to the latter species. The error is very likely due to the close resemblance of *A. siculus* and *A. debeauxi*, which share having more than two lateral striae on the pronotum (a feature that separates them from all other European species of *Hister* and *Atholus*); consider also that in Baudi's time *A. debeauxi* had not yet been described (see also comment under *Atholus siculus* in the chapter "Excluded and/or doubtful species").

19. *Atholus duodecimstriatus duodecimstriatus* (Schrank)

Hister 12-striatus Schrk.: Bargagli 1871: 41; Bertolini 1872–1878: 83
Hister (*Atholus*) *duodecimstriatus* Schrnk.: Porta 1926: 371; Luigioni 1929: 368; Barajon 1966
Hister duodecimstriatus Sck.: Piras & Pisano 1972: 12
Atholus (*Euatholus*) *duodecimstriatus* (Schrank): Vienna 1980: 54
Hister duodecimstriatus v. *14-striatus* Gy.: Bertolini 1904: 48
Hister (*Atholus*) *duodecimstriatus* v. *quatuordecimstriatus* Gyll.: Porta 1926: 371
Hister (*Atholus*) *duodecimstriatus* a. *14-striatus* Gyllh.: Luigioni 1929: 368; Barajon 1966

Literature data. "All of Italy" (Porta 1926). "Sardinia" (Bargagli 1871; Bertolini 1872–1878, 1904; Porta 1926; Luigioni 1929; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Assemini, rio Flumini Mannu, 11.VII.1990, on cow dung, CM, 8 ex (CCMe); *idem*, 2.VII.1992, CM, 1 ex (CCMe). Cagliari, sd, UL, 1 ex (CAD); *idem*, dint., sd (CDM); *idem*, Monte Claro, 5.VII.1980, in sheep shed, CM, 2 ex (CCMe); *idem*, 3.IV.1992, under stone in sheep shed, CM, 1 ex (CCMe); *idem*, 10.VI.1992, CM, 3 ex (CCMe). Capoterra, foce del rio Santa Lucia, 21.VI.1978, on cow dung, CM, 1 ex (CCMe); *idem*, 4.VI.1981, on dog carcass, CM, 1 ex (CCMe). Decimomannu, rio Sesi, 12.VII.1989, on sheep carcass, CM, 1 ex (CCMe); *idem*, 23.VII.1989, under dry algae, CM, 2 ex (CCMe). Domusnovas, rio Figu, 10.VIII.1975, on cow dung, CM, 1 ex (CCMe). Elmas, 17.VII.1977, on cow dung, CM, 2 ex (CCMe). Giara di Gesturi, 300 m, 14.IV.1990, RM, 1 ex (CFP); *idem*, Pauli Majori di Tuili, 570 m, 27.VI.1989, on cow dung, CM, 2 ex (CCMe). Gonnosfanadiga, dint., 19.II.1978, on cow dung, CM, 1 ex (CCMe). Guspini, dint., 120 m ca, 16.V.1995, FA, 2 ex (CFA). Isola di Sant'Antioco, northern coast, IV–XII.1970 and VI–XII.1971, 2 + 5 ex (Piras & Pisano 1972); *idem*, loc. Calasetta, 27.IX.1980, RP, 1 ex (MSNG); *idem*, unspecified locality, 20.IX.2001 (CPV). Monti dei Sette Fratelli, loc. Campuomu, 400 m, 4.V.1985, on rotting fruit, CM, 1 ex (CCMe). Quartu Sant'Elena, loc. Is Ammostus [= Amostus], VIII.1894, UL, 1 ex (CAD); *idem*, stagno di Simbirizzi, 31.III.1986, on floating detritus, CM, 1 ex (CCMe). Sardara, dint., 120 m, 13.II.1977, on sheep dung, CM, 1 ex (CCMe). Soleminis, 30.IV.1990, DS, 1 ex (CEM). Teulada, Capo Malfatano, 3.IV.1986, on cow dung, CM, 1 ex (CCMe). Villaspeciosa, dint., 30.VI.1976, on cow dung, CM, 1 ex (CCMe). Nuoro prov.: Aritzo, loc. Castiau, staz. FdS, 520 m, 29.IV.1984, on cow dung, CM, 1 ex (CCMe); *idem*, loc. Castiau and homonymous rio, 450 m, 9.VII.1986, on cow dung, CM, 2 ex (CCMe); *idem*, rio Ispisallia, 700 m, 18.V.1975, on cow dung, CM, 1 ex (CCMe). Arzana, loc. Siccaderba, 850 m, 25.IV.1983, on cow dung, CM, 1 ex (CCMe). Dorgali, dint., 11.IV.1978, on cow dung, CM, 4 ex (CCMe). Esterzili, 6.VII.2000 (CPV). Flumendosa, ex. pl. (CIS). Giara di Gesturi, Pauli Majori di Genoni, 530 m, 10.V.1995, FA, 2 ex (CFA). Monte Albo, 580–650 m, 4.V.1995, FA, 1 ex (CFA). Monti del Gennargentu, strada per [= road to] Monte Spada, 1200 m, 8.V.1995, FA, 1 ex (CFA). Rio d'Oliena, 22.V.1940, MBj, 3 ex (CFP). Seui, Monte Tonneri, 950–1000 m, 6.VIII.1985, on cow dung, CM, 1 ex (CCMe). Strada [= road] Fonni–Dèsulo, on rio Aratu, 950 m, 8.V.1995, FA, 2 ex (CFA). Villanova Strisaili, 1000 m, 23.V.1974, VR, 28 ex (1 CCMe, 21 CPV, 2 MSNTO ex-coll. P. Vienna, 4 PIME). Oristano prov.: Asuni, Monte Molas, 200 m (CCMe). Sassari prov.: Illorai, dint. fiume Tirso, Molia necropolis, 10.VI.1994, BC, 1 ex (CBC). Isola Asinara, Diga Ruda, 16.VI.1989, RP, 1 ex (MSNG); *idem*, dint. Cala d'Oliva, 2003 (MSNC). Isola Maddalena, 23.III.1997, in cow dung, 2 ex (CBC). Sassari, sd (CDM). Lago Coghinas, 16.V.1981, LD, 3 ex (CFP). Oschiri, dint., 180 m ca, 28.V.1995, FA, 1 ex (CFA). Porto Torres, 19.V.1974, VR, 1 ex (CFP). Sassari, 4.V.1950, 3 ex (CGMü).

Unpublished records. "Sardinia", sd, [UL?], 5 ex (CUL). Cagliari prov.: Cagliari, stagno di Molentargius, sd, UL, 1 ex (CAD). Iglesias, V.1873, RG, 1 ex (MSNG). Isola di San Pietro, Carloforte, 20.V.1901, AD, 1 ex (CAD); *idem*, 26.IV.1902, 3 ex (CAD); *idem*, Guardia dei Mori, 27.VI.1987, VV, 1 ex (MZRM); *idem*, Punta delle Oche, 28.V.1968, 1 ex (DPPS). Pula, sd, UL, 1 ex (CUL). San Nicolò Gerrei, dint. and Cant. Pranu Sanguini, 620–650 m, 13.VII.1997, on cow dung, CM, 4 ex (CCMe); *idem*, rio Baccanali, 370 m, 15.VII.1997, on cow dung, CM, 1 ex (CCMe). Nuoro prov.: Baunei, 10.VIII.1989, DS, 2 ex (CDS). Desulo, loc. Genna 'e Nughe, 1180 m, 30.IV.2003, in cow dung, CM, 6 ex (CCMe). Esterzili, dint. and Staz. FdS Betili, 519–530 m, 14.V.1994, on pig dung, CM, 1 ex (CCMe); *idem*, loc. Taccu sa Pruna, 635–650 m, 15.VII.1997, on cow dung, CM, 3 ex (CCMe). Fonni, rio Dudulu, 19.VI.1965, 1 ex (DPPS). Gairo Taquisara [= Tacquisara], 5.VI.1873, RG, 2 ex (MSNG). Isili, Staz. FdS Sarcidano and dint., 420 m, 6.VII.1994, on cow dung, CM, 2 ex (CCMe). Orgosolo, Monte Fumau, 12.VI.1965, 1 ex (DPPS). Ottana, 19.VII.1974, 44 ex (DPPS). Seui, Monte Tonneri, 1000–1200 m, 6.VII.1997, on cow dung, CM, 3 ex (CCMe). Urzulei, 6.VII.1966, 1 ex (DPPS). Valico [= pass] di Genna Sarbene, dint., 761 m, 18.VIII.2005, D/F, cow dung, exposed, 3 ex (MSNC). Oristano prov.: Monte Arci, Serra Quaddàris, 700–730 m, 8.VI.2001, in cow dung, CM, 1 ex (CCMe). Narbolia, dint. Nuraghe Tradori, loc. Is Arenas, 16.VI.2003, MD, 1 ex (MSNC). Oristano, III.1937, UL, 1 ex (CUL). Sassari prov.: Berchidda, loc. Silvani, 16.VI.2003, MD, 2 ex (MSNC). Isola Molara, 2.VII.1987, VV, 1 ex (MZRM). Sassari, 4.V.1950, 4 ex (DPPS).

Chorotype. 1.03 WPA (W-Palearctic).

Italian distribution. All regions.

Ecology. Identical to *Atholus bimaculatus*.

20. *Atholus paganettii* (Bickhardt)

Hister (*Atholus*) *Paganettii* Bickh.: Bickhardt 1912: 291; Winkler 1925: 485; Luigioni 1929: 368; Barajon 1966
Hister Paganettii Bickhardt: Porta 1934: 150
Atholus (*Euatholus*) *paganettii* (Bickhardt): Vienna 1980: 327
Atholus paganetti [sic!] Bickhardt: Mazur 1984: 215, 1997: 132, 2004: 79

Literature data. "Sardinia" (Winkler 1925; Luigioni 1929; Porta 1934; Barajon 1966; Mazur 1984; Audisio *et al*. 1995; Mazur 1997; Yélamos 2002; Mazur 2004; Yélamos & Lackner 2004). Nuoro prov.: Gairo Taquisara [= Tacquisara], sd (Bickhardt 1912; Vienna 1980).

Chorotype. 3.02 WME (W-Mediterranean).

Italian distribution. Sardinia.

Ecology. Occurs in cow dung and under stones in spring, summer and early autumn.

Notes. Very rare species known only from very few specimens, so far recorded, other than Sardinia, from Spain, Portugal and Algeria (see Vienna 1980; Mazur 1984, 1997; Yélamos 2002; Mazur 2004).

21. *Atholus praetermissus* (Peyron)

Hister praetermissus Peyr.: Bertolini 1904: 48
Hister (*Atholus*) *praetermissus* Peyr.: Porta 1926: 372; Luigioni 1929: 368
Atholus (*Euatholus*) *praetermissus* (Peyron): Vienna 1980: 326
Atholus praetermissus (Peyron) f. *gomyi* nov.: Secq & Secq 1994: 359

Literature data. "Sardinia" (Bertolini 1904; Porta 1926; Luigioni 1929; Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Giara di Gesturi, 1997 (CSZ); *idem*, Pauli Majori di Tuili, 570 m, 25.VI.1986, on cow dung, CM, 1 ex (CCMe). Nuoro prov.: Macomer, stagno di Bara, 600 m, 23.V.1955, GMi, 2 ex (MSNM; Vienna 1980); *idem*, 23.V.1955, LC, 1 ex (CMü); *idem*, VIII.1964, FT, 1 ex (CFP); *idem*, 10.IX.1978 and 27.IV.1980, on cow dung, CM, 2 ex (CCMe). Oristano prov.: Oristano, 30.IV.1982, SR, 1 ♂ (Secq & Secq 1994). Sassari prov.: Arzachena (Vienna 1980); *idem*, sd, LC, 2 ex (MSNM). Palau, loc. Punta Pollo, 4.VIII.1994, AS, 1 ex (MZUF).

Unpublished records. "Sardinia", sd, 1 ex (CFB as *Hister praetermissus* Peyron.). Cagliari prov.: Giara di Gesturi, Pauli Majori di Tuili, 573 m, 1.V.1999, in mastic leaf litter, CM, 1 ex (CCMe). Nuoro prov.: Macomer, stagno di Bara, V.1935, MBu, 1 ex (CUL).

Chorotype. 1.02 PAL (Palearctic).

Italian distribution. Lombardy, Trentino-Alto Adige, Friuli-Venezia Giulia, Emilia-Romagna, Tuscany, Latium, Campania, Abruzzi, Calabria, Sicily and Sardinia.

Ecology. Occurs on banks and margins of lakes, ponds and watercourses, on dead fish, excrements and decomposing vegetable matter.

Haeteriinae

22. *Haeterius ferrugineus* (Olivier)

Hetaerius [sic!] *ferrugineus* Olivier: Bertolini 1904: 48; Porta 1926: 374; Luigioni 1929: 369; Horion 1949: 369; Barajon 1966; Vienna 1971: 299, 1980: 54; Audisio *et al*. 1995: 17

Literature data. "Sardinia" (Bertolini 1904; Porta 1926; Luigioni 1929; Horion 1949; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Ússana, 1936, UL, 2 ex (CUL). Nuoro prov.: Aritzo, 1–10.VI.1910, FS, 2 ex (CGB); *idem*, 10.VI.1910, AD, 2 ex (CAD). Desulo, loc. Bruncu Spina, 13.V.1976, SZ, 1 ex (CPV). Macomer, loc. Bara, staz. FdS, 620–650 m, 26.II.1986, in *Lasius bicornis* (Foerster) ants' nest under large, only slightly embedded stones on humid clayey terrain in open *Quercus suber* woodland, CM, 2 ex (CCMe). Monte Spada, 1300 m, 5.IX.1975, GFr, 1 ex (CPV). Monti del Gennargentu, VII.1911, AD, 1 ex (CAD). Seui, Foresta Mont'Arbu, rio Ermolinus, 790–800 m, 14.V.1986, in *Lasius bicornis* ants' nest under large, non-embedded stones in half-shaded riparian habitat, CM, 2 ex (CCMe). Sorgono, 2 ex (Vienna 1971).

Unpublished records. Nuoro prov.: Macomer, stagno di Bara, 450 m, 1.III.2004, ADg, 1 ex (CFP). Sassari prov.: Ozieri, sd, DA, 1 ex (CAD).

Chorotype. 1.10 TUE (Turano-European).

Italian distribution. All regions (Campania: Vomero & Nardi 2007) except Molise and Sicily.

Ecology. Found in or near (under stones or fallen trunks) nests of various ant species, where it feeds on larvae and dead or wounded adults. Like all myrmecophiles it is more easily found after rain or in humid weather.

Notes. It is the only myrmecophile present on the island [see also comments under *Sternocoelis puberulus* (Motschulsky) in the chapter "Excluded and/or doubtful species"].

Dendrophilinae

Dendrophilini

23. *Kissister minimus* (Laporte)

Carcinops (*Kissister*) *corpusculus* Marsh.: Bargagli 1871: 41
Carcinops corpusculus Marsh.: Bertolini 1872–1878: 83
Carcinops minimus Aub.: Bertolini 1872–1878: 83; Costa 1883: 40
Carcinops minima A.: Bertolini 1904: 48; Krausse 1911: 101
Carcinops (*Kissister*) *minima* Aubé: Porta 1926: 373
Kissister minimus Aubé: Luigioni 1929: 364; Strassen 1954: 269; Vienna 1971: 284; Audisio *et al*. 1995: 15
Kissister minima: Barajon 1966

Literature data. "Sardinia" (Bargagli 1871; Bertolini 1872–1878, 1904; Porta 1926; Luigioni 1929; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Assemini, foce del rio Flumini Mannu, X–XI.1999 (CPV); *idem*, rio Cixerri, 22.X.1989, in vegetable detritus under stone, CM, 1 ex (CCMe). Cagliari, city, 1.IV.1970, under stone in tree-lined street, CM, 1 ex (CCMe); *idem*, 10.V.1970, under stone in park, CM, 1 ex (CCMe); *idem*, 14.VI.1978, in house in cat litter, CM, 1 ex (CCMe); *idem*, Monte Claro, 27.II.1980, under stone in sheep shed, CM, 1 ex (CCMe); *idem*, 12.IV.1988, sieved from vegetable detritus, CM, 1 ex (CCMe); *idem*, loc. Poetto, IX.1941, ES, 1 ex (CGMü); *idem*, 17.VI.1988, sieved from soil and vegetable detritus mixed with sand under dry vegetable matter, CM, 1 ex (CCMe); *idem*, Saline di Stato, 7.VI.1988, CM, 3 ex (2 CCMe; 1 CGN); *idem*, stagno di Molentargius, X.1999 (CPV); *idem*, stagno Santa Gilla, 19.VII.1980, under fresh algae on bank, CM, 6 ex (5 CCMe, 1 CRPe); *idem*, 5.IV.1995 and 4.V.1997, in olive leaf litter, CM, 3 ex (CCMe); *idem*, XI.1999 (CPV). Capoterra, foce del rio Santa Lucia, 17.VI.1975, roaming among grass on bank, CM, 1 ex (CCMe); *idem*, 25.VI.1978, in vegetable detritus on clayey-sandy terrain, CM, 2 ex (CCMe). Decimoputzu, IV–VI.1882, ACo (Costa 1883). Giorgino, 17.X.1979, RPi, 1 ex (CFP). Isola di San Pietro, dint. Carloforte, 27.I.1980, under stone, CM, 1 ex (CCMe). Isola di Sant'Antioco, loc. sa Scrocca Manna, 13.VI.1989, with sieve, RP, 1 ex (MSNG); *idem*, s'Aqua de sa Canna, 13.VI.1989, GO 2 ex. and RP 1 ex (MSNG). Maracalagonis, stagno di Maracalagonis, 25.I.1985, in vegetable detritus

under stones, CM, 2 ex (CCMe). Monti dei Sette Fratelli, loc. Maidopis and homonymous rio, 350 m, 21.VI.1988, under rotting vegetable matter, CM, 1 ex (CCMe). Quartu Sant'Elena, sd, UL, 18 ex (CGB); *idem*, loc. Capitana, VI.1999 (CPV); *idem*, rio Su Pau, XI.1999 (CPV); *idem*, stagno di Simbirizzi 31.III.1986, on floating detritus, CM, 1 ex (CCMe). Siliqua, IV–VI.1882, ACo (Costa 1883). Siurgus-Donigala [= Seurgus], X.1943, 3 ex (MSNG). Villaputzu, foce del Flumendosa, IX.1999 (CPV). Nuoro prov.: Aritzo, 3.VI.1974, GBa, 4 ex (3 MSNG, 1 CPV); *idem*, loc. Ortuabis, staz. FdS, 776 m, 8.IV.1985, on cow dung, CM, 1 ex (CCMe). Dualchi, dint., 250 m, 29.XII.1990, in vegetable detritus under stone, CM, 1 ex (CCMe). Fonni, 3.VI.1920, 1 ex (CGB); *idem*, 1.IV.1948, MBj, 3 ex (CFP). Giara di Gesturi, Pauli Majori di Genoni, 530 m, 10.V.1995, FA, 1 ex (CFA). Lula, strada [= road] Lula-Dorgali, Sologo torrent, 5.V.1995, FA, 1 ex (CFA). Macomer, loc. Bara, staz. FdS, 620–650 m, 11.X.1981, in vegetable detritus under stone, CM, 1 ex (CCMe); *idem*, Monte Sant'Antonio, 800 m, 26.II.1986, in vegetable detritus under stone, CM, 1 ex (CCMe); *idem*, stagno di Bara, 27.IV.1981, SR, 2 ex (MSNG). Monte Albo, 2.IX.2001 (CPV). Nuoro, 15.V.1920, 1 ex (CGB). Nurri, Pran 'e Muro [= Plano e Muro], 10.IX.1941, ES, 2 ex (1 CGD; 1 CGMü). Orani, 585 m, 17.III.2003, ADg, 1 ex (CFP). Ottana, dint., 160 m ca, 21.V.1995, FA, 1 ex (CFA). Seui, San Girolamo, staz. FdS, 800 m, 14.VI.1984, in vegetable detritus under stone, CM, 1 ex (CCMe). Siniscola, Monte Albo, Punta Cupetti, 550–650 m, 4.V.1995, FA, 2 ex (CFA). Sorgono, sd, 1 ex (CGB). Villanova Strisaili, dint., 1000 m, 23.V.1974, VR, 2 ex (CFP). Oristano prov.: Asuni (Krausse 1911); *idem*, 7 ex (Vienna 1971); *idem*, sd, AK, 5 ex (CGMü). Cabras, stagno di Cabras, 19.V.1995, FA, 3 ex (CFA). Marrubiu, Cant. Sant'Anna, 29.V.1982, under large stone among moved earth, CM, 1 ex (CCMe). Oristano, sd, UL, ex. pl. (CGB); *idem*, river Tirso, Ponte Mannu, 20.II.1977 and 22.X.1995, in vegetable detritus under stone, CM, 3 ex (CCMe). Sèdilo, state road n. 131 on river Tirso, 21.V.1995, 120 m, FA, 18 ex (11 CPV, 3 CFA, 4 MSNTO ex-coll. P. Vienna). Spiaggia [= beach] is Arenas, 1998, GMr (CGMr). Sassari prov.: Golfo Aranci, 2.V.1995, FA, 3 ex (CFA); *idem*, Cala Spada, 30.X.1981, in vegetable detritus under stones, CM, 2 ex (CCMe). Isola Asinara, dint. Tumbarino, 13.X.1989, [sieved under] mastic bush, RP, 7 ex (MSNG). Isola dei Poveri, 11.IV.1986, under *Lavatera* bush, RP, 7 ex (MSNG). Isola Maddalena, 12.XI.1986, MB, 1 ex (MSNG). Oschiri, Lago Coghinas, near Pedredu plant, 165 m, 28.V.1995, FA, 1 ex (CFA). Palau, river Liscia, 24.IX.1994, sieving under mastic, 1 ex (CBC). Porto Torres, 7–9.IV.1952, under stones in sandy littoral habitat (Strassen 1954). Sassari, dint., 3–18.IV.1952, on roadside (Strassen 1954); *idem*, Lago di Baratz, 22.X.1979 (MSNM); *idem*, 23.V.1995, FA, 1 ex (CFA); *idem*, 18.III.2001, ADg, 1 ex (CFP); *idem*, stagno di Platamona, 19.V.1974, VR, 1 ex (CFP). Tempio Pausania, V.1935, MBu, 2 ex (1 CCA; 1 MSNM). Tula, 200 m ca, 27.V.1995, temporary pools, FA, 1 ex (CFA).

Unpublished records. "Sardinia", sd, 1–3 ex (CFB as *Carcinops minima* Aubé); *idem*, sd, 1 ex (CFB as *Carcinops minima* Aubé var. (*major*)); *idem*, sd, 1–3 ex (CFB as *Carcinops minima* Aubé var.); *idem*, sd, [UL?], 9 ex (CUL). Cagliari prov.: Cagliari, Colle San Michele, 28.X.1996, in olive leaf litter, CM, 1 ex (CCMe); *idem*, Monte Urpinu, 23.III.1996, in olive leaf litter, CM, 1 ex (CCMe); *idem*, stagno di Molentargius, 13.III.1997, in vegetable detritus at the base of Chenopodiaceae, CM, 2 ex (CCMe). Decimomannu, dint., 19–28.IV.1995, in olive leaf litter, CM, 3 ex (CCMe). Dolianova, 13.XI.2001, LF, 11 ex (MSNG). Domus de Maria, bivio [= fork in road] Chia, 21.V.1994, in mastic leaf litter, CM, 1 ex (CCMe). Domusnovas, dint. Grotta [= cave] San Giovanni, 250–290 m, 30.I.1993, in half-damp leaf litter of mastic and other shrubs, CM, 1 ex (CCMe). Giara di Gesturi, Pauli Majori di Tuili, 570 m, 21.II.1995, in vegetable detritus under stones, CM, 1 ex (CCMe); *idem*, 11.V.1999, in half-damp mastic leaf litter, CM, 2 ex (CCMe); *idem*, 10.VI.2007, in vegetable detritus under stones along banks, CM, 1 ex (CCMe). Gonnesa, II.1911, AD, 4 ex (CAD). Iglesias, Genna Bogai, 5.II.2004, LF, 1 ex (CFP); *idem*, Marganai, 700 m, 16.II–15.VI.2004, Malaise trap, DBi/PCe/GN/DW, 1 ex (CNBFVR). Isola di San Pietro, Carloforte, 20.V.1901, AD, 1 ex (CAD); *idem*, Monte Guardia dei Mori, 10.VI.1989, GO, 1 ex (MSNG). Isola di Sant'Antioco, Cala Saboni, 28.IX.1997, in mastic leaf litter, CM, 1 ex (CCMe); *idem*, stagno Is Pruinis, 4.X.1998, in mastic leaf litter, CM, 2 ex (CCMe). Quartu Sant'Elena, stagno di Simbirizzi 31.III.1986, CM, 19 ex (17 CGN, 2 CPC). Quirra, loc. su Pirastu, 25.IV.2003, in mastic and olive leaf litter, CM, 1 ex (CCMe). San Vito, IV.1872, RG, 4 ex (MSNG). Sarroch, dint., 9.VI.1996, in olive leaf litter, CM, 1 ex (CCMe). Siliqua, loc. Argiolas, 5.V.1995, in olive leaf litter, CM, 2 ex (CCMe). Teulada, 1.XI.2001, LF, 1 ex (MSNG). Uta, 1.IV.2000, LF, 3 ex (CFP).

Villasalto, Monte Genis, 700–800 m, 27.I.2008, on half-fresh cow dung, CM, 1 ex (CCMe). Nuoro prov.: Aritzo, 1–10.VI.1910, AD, 1 ex (CAD). Birori, dint., 400 m, 29.IV.1990, in mastic and olive leaf litter, CM, 1 ex (CCMe). Campeda, 24.IV.1902, AD, 1 ex (CAD). Fonni, VII.1911, AD, 4 ex (CAD); *idem*, IX.1911, 1 ex (CAD). Laconi, loc. Funtamela, staz. FdS and dint., 714–720 m, 24.V.1995, by sieving vegetable detritus, CM, 2 ex (CCMe). Lula, VI.1911, AD, 1 ex (CAD). Mamone, 800 m, 7.XII.2005, ADg, 4 ex (CFP). Monte Albo, 600–800 m, 30.VI.2004, PC/GS, 4 ex (CPC). Monti del Marghine, 800 m, 3.V.1978, RP, 1 ex (MSNG). Orune, sd, 1 ex (CAD ex-coll. L. Demarchi). Seui, 6.V.1909, AD, 4 ex (CAD). Tertenia, IV.1872, RG, 1 ex (MSNG). Oristano prov.: Asuni, sd, AK, 1 ex (CAD). Bauladu, sd, UL, 2 ex (CUL). Monte Arci, rio Mortu, 460 m, 11.III.2008, by sieving vegetable detritus, CM, 2 ex (CCMe); *idem*, Serra Quaddaris, 700 m, 28.I.2002, by sieving vegetable detritus, CM, 1 ex (CCMe). Oristano, sd, UL, 1 ex (CAD); *idem*, III.1940, UL, 4 ex (CUL). Sassari prov.: Alà dei Sardi, V.1907, TD, 1 ex (CAD). Alghero, 21.V.1974, IB, 1 ex (CCMe). Argentiera, 2.II.2004, ADg, 5 ex (CFP). Golfo Aranci, 4.VI.1902, AD, 4 ex (CAD); *idem*, sd, 1 ex (CAD). Ozieri, 10.IV.1902, AD, 3 ex (CAD). Tempio Pausania, 21.IV.1903, AD, 2 ex (CAD).

Chorotype. 3.01 MED (Mediterranean).

Italian distribution. Venetia, Liguria, Emilia-Romagna, Tuscany, Umbria, Marches, Latium, Campania, Apulia, Basilicata, Calabria, Sicily and Sardinia.

Ecology. Occurs under stones and in detritus (preferably with organic matter), on dry cow and horse dung, under bark, in humus-rich soils, often in association with ants of the genus *Lasius* Fabricius (particularly on sandy littoral dunes), from sea level to 800–1000 m.

Notes. In Penati and Vienna (2005, 2006a) the data referring to the specimens from Bauladu (CUL) were erroneously given as "Quartu Sant'Elena, 1937, coll. Museo Genova" (see "Data collection"). See notes under *Tribalus minimus* for the specimens from Fonni and Nuoro (CGB).

Bacaniini

24. *Sardulus incrassatus* Magrini & Fancello

Literature data. Nuoro prov.: Gairo, Risorgente Cabudu Abba n. 718 Sa/NU, 725 m, 6.XII.2004, PM, holotypus ♂ and 1 paratypus (+ remains of 4 specimens) (Magrini & Fancello 2005); *idem*, 10.XII.2002, LF, 3 paratypes (Magrini & Fancello 2005).

Chorotype. Sardinian endemic.

Italian distribution. Sardinia.

Ecology. Unknown. The holotype was collected dead in the small basins filled with water placed along the initial stretch of the Cabudu Abba spring (Magrini & Fancello 2005).

25. *Sardulus sacerensis* Casale & Marcia

Literature data. Sassari prov.: Grotta [= cave] di Lu Gardu n. 2936 Sa/SS, 102, 30.IV.2004, C/Ma, holotypus ♂ and 13 paratypes (Casale *et al*. 2006); *idem*, 6.I.2004, SPi, 3 paratypes (Casale *et al*. 2006); *idem*, 15.IV.2004, PMa, 4 paratypes + one larva (Casale *et al*. 2006).

Chorotype. Sardinian endemic.

Italian distribution. Sardinia.

Ecology. All specimens were found on a single, partly rotting root emerging through a crack in the rocks at about 40 m from the cave's entrance, and exposed for a short distance (Casale *et al*. 2006). Feeding habits unknown.

26. *Sardulus spelaeus* Patrizi

Literature data. "Sardinia" (Mazur 1984; Audisio *et al*. 1995; Mazur 1997, 2004; Yélamos & Lackner 2004). Nuoro prov.: Baunei, Grotta [= cave] di Istirzili n. 50 Sa/NU, 507 m, 25.IV.2006, CO, 4 ex (Casale *et al*. 2006); *idem*, 28.V.2006, M/O, 4 ex (Casale *et al*. 2006). Dorgali, Grotta [= cave] di Toddeitto n. 89 Sa/NU, 166 m, 25.VII.1955, SP, holotypus, allotypus, 3 paratypes and one pupa (Patrizi 1955); *idem* (Patrizi 1956; Barajon 1966; Cerruti 1968; Puddu & Pirodda 1974; Vienna 1980; Cassola 1982; Vomero 1982; Pisano *et al*. 2003); *idem*, 1990's, FG, ex. pl. and one larva (Casale *et al*. 2006); *idem*, Monte Coazza, Grotta [= cave] Pisanu n. 215 Sa/NU, 225 m, 20.III.2001, PM, 11 ex (Magrini & Vomero 2003); *idem*, 14.III.2003, PM, 1 ex (CFP); *idem*, 25.IV.2003, ADg, 2 ex (1 MSNG, 1 CFP).

Unpublished records. Nuoro prov.: Dorgali, Monte Coazza, Grotta [= cave] Pisanu, 200 m, 1.III.2004, in a pitfall trap, PM, 2 ex (CCMe); *idem*, 6.XII.2005, PM, 1 ex (CCMe); *idem* [= Grotta Gurennoro], 5.XII.2005, ADg, 2 ex (CFP); *idem*, Grotta [= cave] di Toddeitto, VI.1955, SP, 2 ex (CGMü); *idem*, sd, SP, 3 ex (2 MSNT, 1 CPV).

Chorotype. Sardinian endemic.

Italian distribution. Sardinia.

Ecology. The type specimens were collected by [translated from the Italian original] "*breaking up rotten wood*" of "*a few pieces of completely decayed and water-logged juniper" found "in the rear part of the last room* [of Grotta di Toddeitto cave], *quite humid and with a few drippings*" (Patrizi 1955). Specimens from Grotta Pisanu were [translated from the original Italian] "*collected by sieving clayey, damp soil lying on the bottom* [of the cave]" (Magrini & Vomero 2003).

Notes. It is interesting to add that the two specimens kept in the G. Müller collection (CGMü) were collected by Patrizi in June 1955, i.e. before he collected the type series (25th of July 1955). Despite this and despite carrying a label with the word "tipo" [= type], they cannot be considered types, as Patrizi (1955) gave a precise account of how many and which specimens made up the type series. He probably sent 5 specimens to Müller (the two in the Müller collection plus three kept in the general collection of the Trieste museum, one of which was recently added to the P. Vienna collection) asking him to confirm their belonging to a new genus and species. Having received such confirmation, he then described *Sardulus spelaeus* based on a second series of specimens collected later, "forgetting" those sent to (and kept by) G. Müller.

Paromalini

27. *Carcinops* (*Carcinops*) *pumilio* (Erichson)

Carcinops 14-striata Steph.: Bertolini 1904: 48; Luigioni 1929: 364; Barajon 1966
Carcinops (*Carcinops*) *quatuordecimstriata* Steph.: Porta 1926: 373; Horion 1949: 348

Literature data. "Sardinia" (Bargagli 1871; Bertolini 1872–1878, 1904; Porta 1926; Luigioni 1929; Horion 1949; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Cagliari, city, 11.V.1978, in flight, CM, 1 ex (CCMe); *idem*, 12.IX.1987 and 30.VI.1990, inside house [probably attracted by cat food, C. Meloni *in litteris*], CM, 2 ex (CCMe). Capoterra, foce del rio Santa Lucia, 6.VIII.1987, on decomposing ox carcass, CM, 1 ex (CCMe). Monte Sant'Elia, sd, 1 ex (CDM). Quartu Sant'Elena, stagno di Simbirizzi, 24.I.1982, among alluvial vegetable detritus along banks, CM, 2 ex (CCMe). Villagreca, Monte Coa Margine, 200 m, 26.X.1990, in sack containing damp, rotten feedstuffs, CM, 6 ex (CCMe). Nuoro prov.: Oliena, dint. San Giovanni, 150 m ca, 6.V.1995, FA, 1 ex (CFA). Oristano prov.: Oristano, fiume Tirso, Ponte Mannu, 11.X.1976, in alluvial vegetable detritus, CM, 2 ex (CCMe). Sassari prov.: Ozieri, VIII.1938, 1 ex (CGB).

Unpublished records. "Sardinia", sd, 1 ex (CFB as *Carcinops 14-striata* Steph. var.). Cagliari prov.: Cagliari, 11.II.1883, AD, 1 ex (CAD). Decimomannu, rio Sesi, 23.VII.1989, under piles of half-dried algae,

CM, 1 ex (CCMe). Maracalagonis, pond, 87 m, 18.V.1993, on dead gallinacean, CM, 2 ex (CCMe). Sassari prov.: Sassari, 5.VI.1960, 1 ex (DPPS).

Chorotype. Cosmopolitan.

Italian distribution. All regions except Aosta Valley.

Ecology. It occurs on dried carcasses, excrements, in hen houses, rabbit hutches, birds' nests, decomposing vegetable matters and in several foodstuffs, particularly in ports.

Notes. Probably due to an oversight, Mazur (2004) did not specify the nominal subgenus even though the other subgenus – *Carcinopsida* Casey – remains valid (*cf.* Mazur 1997; Yélamos 2002; Yélamos & Lackner 2004).

28. *Paromalus* (*Paromalus*) *filum* Reitter

Micromalus filum Reitt.: Luigioni 1929: 364; Barajon 1966

Literature data. "Sardinia" (Luigioni 1929; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004). Sassari prov.: Banari, 9.V.1905, AD, 1 ex (CAD).

Chorotype. 3.01 MED (Mediterranean).

Italian distribution. Liguria, Umbria, Latium, Campania, Basilicata, Sicily and Sardinia.

Ecology. Found under bark; no additional data.

Notes. The aforementioned specimen is the only known record of this extremely rare species in Sardinia.

29. *Paromalus* (*Paromalus*) *flavicornis* (Herbst)

Micromalus flavicornis Herbst: Luigioni 1929: 364; Strassen 1954: 269; Barajon 1966
Paromalus (*Microlomalus*) *flavicornis* Herbst: Müller 1955: 4

Literature data. "All of Italy" (Bertolini 1904; Porta 1926). "Sardinia" (Bargagli 1871; Luigioni 1929; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004); *idem*, s.d, UL, 20 ex (19 CUL, 1 MSNG). Cagliari prov.: Monti dei Sette Fratelli, sd, UL, 7 ex (CGB). Nuoro prov.: Aritzo, 10.VI.1910, FS, 2 ex (Müller 1955; 1 CGB, 1 CGMü). Desulo, 14–16.IV.1952, 900 m, under oak bark invaded by fungi (Strassen 1954). Orune, sd, LDe, 6 ex (CGB). Sorgono, 3 ex (Vienna 1971). Sassari prov.: Monte Limbara, 1996 (CEM). Ozieri, sd, UL, 1 ex (CGB).

Unpublished records. Nuoro prov.: Benetutti, 4.XII.2006, LF, 1 ♀ (MSNG). Oristano prov.: Monte Arci, VI.1936, UL, 1 ex (CUL). Monte Ferru, X.1936, UL, 1 ex (CUL); *idem*, sd, UL, 2 ex (CUL).

Chorotype. 1.03 WPA (W-Palearctic). In Penati and Vienna (2005, 2006a) the chorotype was erroneously given as "2.04 SEU (S-European)".

Italian distribution. All regions except Aosta Valley.

Ecology. Lives under the bark of dead or dying trees, mainly broadleafs such as *Populus* spp., *Salix* spp., *Quercus* spp., *Fagus sylvatica*, *Castanea sativa* and *Juglans regia*; also recorded from various conifers, namely *Picea abies*, *Pinus pinaster*, *Pinus laricio* and *Pinus halepensis* (*cf*. Saalas 1917; Vienna 1980), as well as in birds' nests and in association with ants (Vienna 1980). According to Saalas (1917) it is predacious on some species of Scolytinae (Coleoptera: Curculionidae), particularly *Ips typographus* (Linnaeus) and to a lesser extent *Orthotomicus suturalis* (Gyllenhal), in the tunnels of which it is often found, also in association with *Platysoma* (*Cylister*) *lineare* Erichson (a species never collected in Sardinia). According to the literature it is more frequent in spring and late summer, in humid weather.

Notes. In Penati and Vienna (2005, 2006a) the data referring to the two specimens from Monte Ferru without a date (CUL) are erroneously given as "Monti dei Sette Fratelli, 1937, coll. Museo Genova", whereas the two specimens from Monte Arci and Monte Ferru collected in 1936 (CUL) are attributed to *Teretrius*

(*Neotepetrius*) *parasita* Marseul and their data are wrongly indicated as "Flumini, 1936, coll. Museo Genova" (see "Data collection").

30. *Paromalus* (*Paromalus*) *parallelepipedus* (Herbst)

Paromalus parallelipipedus [sic!] Herbst: Bargagli 1871: 41
Paromalus parallelopipedus [sic!] Herbst: Porta 1926: 373
Micromalus parallelopipedus [sic!] Herbst: Luigioni 1929: 364; Barajon 1966

Literature data. "All of Italy" (Bertolini 1904; Porta 1926). "Sardinia" (Bargagli 1871; Luigioni 1929; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004). Nuoro prov.: Aritzo, Arcu Guddetorgiu, 850–1050 m, 9.V.1995, FA, 1 ex (CFA). Desulo, Bruncu Spina, 14.V.1976, SZ, 2 ex (CSR). Strada [= road] Fonni–Desulo, near rio Aratu, 950 m, 8.V.1995, FA, 1 ex (CFA).

Chorotype. 1.02 PAL (Palearctic).

Italian distribution. Aosta Valley, Piedmont, Lombardy, Trentino-Alto Adige, Venetia, Friuli-Venezia Giulia, Liguria, Emilia-Romagna, Tuscany, Latium, Apulia, Basilicata, Calabria, Sicily and Sardinia.

Ecology. The ecology of this species is poorly known: it is normally found under bark of dead or dying conifers, but sometimes also of broadleafs. In Italy it is considered more common in hilly/montane environments (Vienna 1980), whereas in Spain and in the Balearic Islands it would appear to be more abundant at lower altitudes (Yélamos 2002). It is sometimes found together with the congener *P. flavicornis*, but ecological (= trophic?) differences among the two species are unknown.

Abraeinae

Abraeini

31. *Chaetabraeus* (*Chaetabraeus*) *globulus* (Creutzer)

Abraeus globulus Creutz.: Bargagli 1871: 42; Bertolini 1872–1878: 85, 1904: 49; Porta 1926: 383; Luigioni 1929: 359; Horion 1949: 326; Barajon 1966
Abraeus (*Chaetabraeus*) *globulus* (Creutzer): Vienna 1980: 93

Literature data. "Sardinia" (Bargagli 1871; Bertolini 1872–1878, 1904; Porta 1926; Luigioni 1929; Horion 1949; Barajon 1966; Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Assemini, foce del rio Flumini Mannu, 17.VIII.1988, on half-fresh cow dung, CM, 1 ex (CCMe); *idem*, rio Flumini Mannu, 26.III.1989, on half-fresh cow dung, CM, 1 ex (CCMe). Monti dei Sette Fratelli, Monte Cresia, 700 m, 11.VIII.1988, on half-fresh cow dung, CM, 1 ex (CCMe). Nuoro prov.: Aritzo (Vienna 1980); *idem*, dint., 1.X. [year not specified], GK, 1 ex (MSNM). Fonni, dint., 24.V.1974, VR, 1 ex (CFP). Strada [= road] Fonni–Desulo, rio Aratu, 950 m, 8.V.1995, FA, 1 ex (CPV). Villanova Strisaili (Vienna 1980); *idem*, dint., 1000 m, 23.V.1974, VR, 3 ex (CFP). Oristano prov.: Abbasanta, loc. Losa, 300 m, 15.X.1989, on half-fresh cow dung, CM, 3 ex (2 CCMe, 1 CFP). Sassari prov.: Alghero (Vienna 1980). Ardara, sd, UL, 1 ex (CUL). Santa Teresa Gallura (Vienna 1980); *idem*, 20.VII.1959, RR, 1 ex (MSNM); *idem*, 14.VIII.1959, 6 ex (1 CGM, 5 MSNM).

Unpublished records. "Sardinia", sd, 5 ex (CFB as *Abraeus globulus* Creutz.). Cagliari prov.: Assemini, rio Cixerri, 25.IV.1991, under stone in sheep shed, CM, 1 ex (CCMe). Golfo di Quarto, XII.1893, UL, 1 ex (CAD). Monti dei Sette Fratelli, sd, UL, 6 ex (CAD). Pabillonis, loc. Is Arenas, 16.X.1967, 3 ex (DPPS). Nuoro prov.: Gennargentu, sd, RMe, 1 ex (CAD). Orune, sd, 9 ex (CAD ex-coll. L. Demarchi). Oristano prov.: Abbasanta, loc. Losa, 300 m, 15.X.1989, on cow dung, CM, 4 ex (CCMe).

Chorotype. 1.05 SIE (Sibero-European).

Italian distribution. Tuscany, Latium, Apulia, Basilicata, Sicily and Sardinia.

Ecology. Usually found in cow dung (preferably drier one); Vienna (1980) mentions this species as occurring under rotten bark and decomposing vegetable matter, but this needs confirming.

Notes. In Penati and Vienna (2005, 2006a) the data referring to the specimen from Ardara (CUL) are erroneously indicated as "Quartu Sant'Elena, 1936, coll. Museo Genova" (see "Data collection").

32. *Abraeus* (*Abraeus*) *perpusillus* (Marsham)

Abraeus globosus Hoffm.: Bargagli 1871: 42; Bertolini 1872–1878: 85, 1904: 48; Porta 1926: 383; Luigioni 1929: 359; Barajon 1966; Vienna 1971: 270, 1980: 96

Literature data. "All of Italy" (Bertolini 1904; Porta 1926). "Sardinia" (Bargagli 1871; Bertolini 1872–1878; Luigioni 1929; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Monti dei Sette Fratelli, sd, UL, 6 ex (CAD). Teulada, 2.V.1912, AD, 4 ex (CAD). Nuoro prov.: Monte Albo, Punta Cupetti, 550–650 m, 4.V.1995, FA, 1 ex (CFA). Aritzo, Arcu Guddetorgiu, 850–1050 m, 9.V.1995, FA, 3 ex (CFA). Esterzili, Rifugio [= mountain refuge] Betilli, 15.V.1902, AD, 19 ex (CGB). Macomer, sd, UL, 1 ex (CGM). Sorgono, 3 ex (Vienna 1971). Oristano prov.: Asuni, 1 ex (Vienna 1971). Monte Ferru, X.1936, UL, 2 ex (CUL).

Unpublished records. "Sardinia", sd, 4 ex (CFB as *Abraeus globosus* Hoffm.); *idem*, sd, UL, 11 ex (1 CAD, 10 CUL). Cagliari prov.: Cagliari, V.1902, AD, 1 ex (CAD). Fluminimaggiore, 24.III.1912, AD, 4 ex (CAD). Monti dei Sette Fratelli, 18.IV.1891, AD, 4 ex (CAD); *idem*, X.1894, UL, 2 ex (CAD). Santadi, 1.V.1892, AD, 1 ex (CAD). Nuoro prov.: Benetutti, 4.XII.2006, LF, 1 ex (MSNG). Laconi, 15.V.1891, AD, 1 ex (CAD). Macomer, Monte Sant'Antonio, 9.XI.1909, AD, 1 ex (CAD). Sadali, 23.IV.1909, AD, 1 ex (CAD). Seui, 7.V.1902, AD, 1 ex (CAD). Oristano prov.: Monte Arci, VI.1936, UL, 1 ex (CUL). Monte Ferru, sd, UL, 1 ex (CAD). Sassari prov.: Alà dei Sardi, 15.V.1909, TD, 4 ex (CAD). Ardara, sd, UL, 1 ex (CUL). Tempio Pausania, 21.IV.1903, AD, 1 ex (CAD).

Chorotype. 2.04 SEU (S-European).

Italian distribution. Trentino-Alto Adige, Liguria, Emilia-Romagna, Tuscany, Umbria, Latium, Campania, Apulia, Basilicata, Calabria and Sardinia.

Ecology. Lives in rotten wood of broadleaved trees, sometimes together with ants, but it is also found in soil, dead leaves and, not rarely, on fungi. It has been observed while actively hunting mites. According to Vienna (1980) it occurs in the olive-grove zone at 1000 m, whereas according to Yélamos (2002) it prefers humid montane habitats.

Plegaderini

33. *Eubrachium hispidulum* (Bremi-Wolf)

Plegaderus pusillus Rossi: Marseul 1856: 279, 1857: 512, 1863a: 719; Bargagli 1871: 42; Bertolini 1872–1878: 85; Stein & Weise 1877: 66; Heyden *et al*. 1883: 93, 1891: 176; Bertolini 1904: 49

Eubrachium pusillum Rossi: Heyden *et al*. 1906: 269; Krausse 1913: 184; Porta 1926: 382; Luigioni 1929: 359; Barajon 1966; Vienna 1971: 269, 1980: 86; Audisio *et al*. 1995: 13

Literature data. "Sardinia" (Marseul 1857, 1863a; Bargagli 1871; Bertolini 1872–1878, Stein & Weise 1877; Heyden *et al*. 1883, 1891; Bertolini 1904; Heyden *et al*. 1906; Porta 1926; Luigioni 1929; Barajon 1966; Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Sinnai, loc. San Gregorio, X.1936, UL, 1 ex (CUL). Nuoro prov.: Sorgono, dint., 1913 (Krausse 1913); *idem*, sd, 4 ex (Vienna 1971, 1980).

Unpublished records. "Sardinia", sd, 4 ex (CFB as *Plegaderus pusillus* Rossi); *idem*, sd, UL, 1 ex (CAD). Cagliari prov.: Gonnosfanadiga, 3.I.1997, on fallen oak trunk, DS, 5 ex (4 CCMe, 1 DPPS). Monti dei Sette Fratelli, X.1894, UL, 8 ex (CAD). Santadi, 7.IV.1884, AD, 13 ex (CAD); *idem*, 1.V.1892, 2 ex (CAD). Nuoro prov.: Campeda, 22.IV.1902, AD, 2 ex (CAD). Esterzili, 15.V.1902, AD, 14 ex (CAD). Isili, V.1937, UL, 1 ex (CUL). Sindia, 1995–1999, under bark of large, logged tree trunks, CM, ex. pl. (C. Meloni, pers. comm.). Oristano prov.: Monte Ferru, sd, UL, 3 ex (CAD). Sassari prov.: Tempio Pausania, 21.IV.1903, AD, 5 ex (CAD).

Chorotype. 3.01 MED (Mediterranean).

Italian distribution. Emilia-Romagna, Tuscany, Umbria, Latium, Apulia, Basilicata, Sicily and Sardinia.

Ecology. Vienna (1980) suggests that the Italian distribution of this species corresponds to that of the holm oak (*Quercus ilex*), and that it feeds on xylophagous species associated with this tree. Yélamos (2002) reports capturing it in great numbers in decomposed, half-buried oak wood in spring and in damp weather, but also records it as present in the wood of other broadleafs and pines, always in very humid conditions.

Notes. In Penati and Vienna (2005, 2006a) the data referring to the specimen from San Gregorio (CUL) are erroneously given as "Monti dei Sette Fratelli, coll. Museo Genova" (see "Data collection").

Acritini

34. *Acritus* (*Pycnacritus*) *homoeopathicus* Wollaston

Acritus rhenanus Fuss: Dodero 1908: 100
Acritus (*Acritus*) *homoeopathicus* Woll.: Porta 1926: 383; Luigioni 1929: 360, Horion 1949: 331, Barajon 1966, Vienna 1980: 110

Literature data. "Sardinia" (Porta 1926; Luigioni 1929; Horion 1949; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Monti dei Sette Fratelli, sd, GK, 1 ex (CGMü); *idem*, Monte Cresia, VIII.1901, UL, 1 ex (CAD). Soléminis, III.1936, UL, 1 ex (CUL). Nuoro prov.: Aritzo (Dodero 1908); *idem*, 7.VI.1901, AD, 1 ex (CAD); *idem*, Arcu Guddetorgiu, 850–1050 m, 9.V.1995, FA, 1 ex (CFA). Lula, VI.1911, AD, 2 ex (CAD). Monte Ferru, NW slopes, 250 m, ponte sul [= bridge crossing] rio Santa Caterina, 26.V.1999, RP, 2 ex (MSNG). Monti del Gennargentu, VII.1911, AD, 3 ex (CAD). Seui (Dodero 1908); *idem*, 7.V.1902, AD, 2 ex (CGB). Road from Laconi to Aritzo, 600 m ca, 10.V.1995, FA, 1 ex (CFA). Sassari prov.: Banari, 11.V.1909, AD, 2 ex (CAD). Golfo Aranci, 15.IV.1909, AD, 1 ex (CAD). Isola Molara, 13.IX.1987, sieve, *Salix*, RP, 10 ex (1 CPV, 9 MSNG); *idem*, 8.VI.1989, sieve, *Salix*, RP, 2 ex (MSNG). Ozieri, 3.V.1908, AD, 1 ex (CAD).

Unpublished records. Sassari prov.: Calangianus, loc. Sant'Antonio, 29.IV.1978, in soil, RP, 1 ex (MSNG). Isola Molara, 2.VII.1987, VV, 1 ex (MZRM).

Chorotype. 1.06 CEM (Centralasiatic-Europeo-Mediterranean).

Italian distribution. Piedmont, Lombardy, Tuscany, Umbria, Campania, Apulia, Basilicata, Calabria, Sicily and Sardinia.

Ecology. Found in damp decomposing organic matter (wood, leaves, humus, etc.), where it feeds on mites and fungal spores.

35. *Acritus* (*Acritus*) *nigricornis* (Hoffmann)

Acritus seminulum K.: Bertolini 1904: 49
Acritus (*Acritus*) *seminulum* Küst.: Porta 1926: 383

Literature data. "All of Italy" (Porta 1926). "Sardinia" (Bargagli 1871; Bertolini 1904; Luigioni 1929; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Bivio Chia, 4.V.1995, dry grass, FA, 2 ex (CFA). Cagliari, 15.II.1883, AD, 2 ex (CAD); *idem*, sd, UL, 2 ex (CAD, CUL). Monti dei Sette Fratelli, Monte Cresia, 700 m, 11.VIII.1988, sieving under half-fresh cow dung, CM, 1 ex (CCMe). Nuoro prov.: Cala Gonone, 24.IV.2003, ADg, 1 ex (CFP). Orune, sd, 5 ex (CAD ex-coll. L. Demarchi). Siniscola, Monte Albo, Punta Cupetti, 550–650 m, 4.V.1995, oak stand, FA, 1 ex (CFA). Villanova Strisaili, dint., 1000 m, 23.V.1974, VR, 1 ex (CFP). Oristano prov.: Oristano, 19.V.1902, AD, 1 ex (CAD); *idem*, sd, 1 ex (CGB). Sassari prov.: Tempio Pausania, 21.IV.1903, AD, 1 ex (CAD).

Unpublished records. "Sardinia", sd, UL, 1 ex (CAD). Cagliari prov.: Cagliari, stagno di Molentargius, III.1938, UL, 1 ex (CUL). Soléminis, III.1936, UL, 1 ex (CUL).

Chorotype. Subcosmopolitan, present in the Palearctic, Afrotropical and Australian regions (Yélamos 2002).

Italian distribution. Piedmont, Lombardy, Trentino-Alto Adige, Venetia, Friuli-Venezia Giulia, Liguria, Emilia-Romagna, Tuscany, Marches, Latium, Campania, Apulia, Basilicata, Calabria, Sicily and Sardinia.

Ecology. Occurs in all sorts of decomposing organic matter: dry excrements, rotten fruit, humus, fungi, rotting wood; it seems to feed on mites, small insects and fungal spores.

Notes. In Penati and Vienna (2002, 2005, 2006a) the specimen from Oristano (CGB) is listed as *Acritus* (*Acritus*) *italicus* Reitter, because kept under such name in the Binaghi collection (CGB), whereas the specimens from Cagliari, Oristano and Tempio Pausania (CAD) were attributed, due to a writing error, to *Acritus* (*Acritus*) *minutus* (Herbst). Having personally re-examined these specimens, I can confidently state that, in reality, they all belong to *A*. (*A*.) *nigricornis*.

36. *Aeletes* (*Aeletes*) *atomarius* (Aubé)

Acritus atomarius Aub.: Bertolini 1904: 49; Horion 1949: 330; Barajon 1966
Acritus (*Aeletes*) *atomarius* Aubé: Porta 1926: 383; Luigioni 1929: 360

Literature data. "Sardinia" (Bertolini 1904; Porta 1926; Luigioni 1929; Horion 1949; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Cagliari, loc. Pixinas, XI.1939, UL, 1 ex (CUL). Nuoro prov.: Esterzili, Rifugio [= mountain refuge] Betilli, 15.V.1902, AD, 6 ex (CGB). Sassari prov.: Tempio Pausania, 21.IV.1903, AD, 1 ex (CAD).

Unpublished records. "Turrisdecas" [?], IX.1898, 1 ex (CAD). Cagliari prov.: Monti dei Sette Fratelli, X.1894, UL, 1 ex (CAD).

Chorotype. 1.12 EUM (Europeo-Mediterranean).

Italian distribution. Trentino-Alto Adige, Tuscany, Umbria, Latium, Basilicata, Calabria, Sicily and Sardinia.

Ecology. Detriticolous species, like most of the Acritini, habitually found in rotten wood lying on the ground, but also under bark.

Notes. In Penati and Vienna (2005, 2006a) the data referring to the specimen from Pixinas (CUL) are erroneously given as "Monti dei Sette Fratelli, coll. Museo Genova" (see "Data collection").

37. *Halacritus punctum* (Aubé)

Acritus punctum Aub.: Bertolini 1904: 49; Horion 1949: 330; Strassen 1954: 269; Barajon 1966
Acritus (*Halacritus*) *punctum* Aubé: Porta 1926: 383; Luigioni 1929: 359
Halacritus punctum punctum (Aubé): Vienna 1980: 49; Audisio *et al*. 1995: 13

Literature data. "Sardinia" (Bertolini 1904; Porta 1926; Luigioni 1929; Horion 1949; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Cagliari, sd, UL, 1 ex (CUL); *idem*, 12.III.1884, AD, 7 ex (CAD); *idem*, 5.V.1936, MBj, 2 ex (CFP). Giorgino, III.1899, UL, 7 ex (CAD). Oristano prov.: Arborea, loc. Marina di Arborea, 15.IX.1983, LF, 1 ex (CFP). Sassari prov.: Aglientu, beach of Rena Maiore, 24.IV.1994, 1 ex (CBC). Porto Torres, outcropping rocks below "Torre di abba currente", 7–9.IV.1952 (Strassen 1954). Sassari, stagno di Platamona, 19.V.1974, VR, 1 ex (CFP).

Unpublished records. Cagliari prov.: Cagliari, 8.V.1885, AD, 2 ex (CAD). Sassari prov.: Isola Asinara, Cala Arena, 2004 [various dates], M/S, pitfall trap, ex. pl. (ISE-SS); *idem*, Cala Sabina, 2004 [various dates], M/S, pitfall trap, ex. pl. (ISE-SS); *idem*, Cala Sant'Andrea, 2004 [various dates], M/S, pitfall trap, ex. pl. (ISE-SS).

Chorotype. 3.01 MED (Mediterranean).

Italian distribution. Venetia, Friuli-Venezia Giulia, Liguria, Emilia-Romagna, Tuscany, Latium, Campania, Apulia, Basilicata, Sicily and Sardinia.

Ecology. Occurs exclusively in coastal areas, mainly sandy ones, under stranded wood or piles of stranded *Zostera*, rarely under algae.

Teretriini

38. *Teretrius* (*Neotepetrius*) *parasita* Marseul

Teretrius parassita [sic!] Mars.: Bertolini 1872–1878: 85

Literature data. "Sardinia" (Baudi di Selve 1864; Bargagli 1871; Bertolini 1872–1878; Heyden *et al*. 1891; Bertolini 1904; Heyden *et al*. 1906; Winkler 1925; Porta 1926; Luigioni 1929; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Mazur 2004; Yélamos & Lackner 2004). Cagliari prov.: Burcei, dint.; Bruncu S'Olioni [= Truncu Soli], VI.1895, UL, 1 ex (CCM). Flumini, sd, UL, 1 ex (CAD); *idem*, X.1898, 1 ex (CAD). Geremeas, 12.VI.2001 (CPV). Quartu Sant'Elena, sd, UL, 3 ex (CAD). Sarroch, rio Monte Nieddu, 60–70 m, 1.VII.1984, under stone near shore with decomposing organic matter, CM, 1 ex (Leo & Meloni 1985). Serdiana, 1.VI.2001, LF, ex. pl. (CPV, CFP). Sassari prov.: Golfo Aranci, IX.1890, AD, 2 ex (CGB).

Unpublished records. Cagliari prov.: Serdiana, 2.VI.2006, LF, 7 ex (MSNG). Nuoro prov.: Villagrande Strisaili, Cant. Pira 'e Onni, 14.VI.2002, DS, 1 ex (CDS).

Chorotype. 4.02 AFM (Afrotropical-Mediterranean).

Italian distribution. Sardinia.

Ecology. Predator of Bostrichidae (Coleoptera) in tunnels bored in poplar and carob wood.

39. *Teretrius* (*Teretrius*) *fabricii* Mazur

Teretrius picipes F.: Bertolini 1904: 49; Porta 1926: 382; Luigioni 1929: 358; Horion 1949: 318; Barajon 1966
Teretrius (s. str.) *picipes* (Fabricius): Vienna 1980: 70

Literature data. "Sardinia" (Bertolini 1904; Porta 1926; Luigioni 1929; Horion 1949; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Geremeas, IX.1999 (CPV). Quartu Sant'Elena, IX.1894, UL, 2 ex (CGB).

Unpublished records. Cagliari prov.: Sarrabus, 1877, RG, 1 ex (MSNG).

Chorotype. 1.05 SIE (Sibero-European).

Italian distribution. Piedmont, Lombardy, Liguria, Emilia-Romagna, Sicily and Sardinia.

Ecology. Lives in rotten wood of many broadleaved trees, feeding on the larvae of xylophagous beetles such as Anobiidae, Bostrichidae and Lyctidae, in hilly and montane habitats.

Saprininae

40. *Gnathoncus cerberus* Auzat

Gnathoncus Cerberus [sic!] Auzat: Winkler 1925: 478

Literature data. "Sardinia" (Winkler 1925; Mazur 1984; Audisio *et al*. 1995; Mazur 1997, 2004; Yélamos & Lackner 2004). Sassari prov.: Scala di Giocca, Grotta [= cave] dell'Inferno, entrance, on bat guano, AD (Auzat 1923); Scala di Giocca, Grotta dell'Inferno (Porta 1926; Luigioni 1929; Barajon 1966; Puddu & Pirodda 1974; Vienna 1980; Cassola 1982); *idem*, 14.IV.1902, AD, 122 syntypes (52 CAD, 10 CCM, 54 CGB, 2 CGM, 3 CPL, 1 CPV); *idem*, sd, AD, 1 syntypus (CUL).

Unpublished records. Sassari prov.: Scala di Giocca, Grotta del Diavolo [= Grotta dell'Inferno], 18.III.1966, 22 ex (DPPS).

Chorotype. To be defined: the species is known also from Grotta di [= cave of] Frasassi [= Grotta del Santuario della Beata Vergine] (Marches region, mainland Italy) (Bertolani *et al*. 1994), Bulgaria (Thomas & Secq 2000) and Serbia (Lackner & Pavićević 2008).

Italian distribution. Marches and Sardinia.

Ecology. Always found on bat guano, where it probably feeds on Diptera larvae (Lackner & Pavićević 2008).

Notes. In Penati and Vienna (2005, 2006a) the date of capture of the specimens preserved in the Lostia di Santa Sofia collection (CUL) is erroneously given as "1939" (see "Data collection"); in fact, the label does not include a collection date, but reads "Grotta dell'Inferno / Scala di Giocca / leg. Dodero", which proves without a doubt that this is one of the numerous specimens collected in April 1902 by the well-known Genoan entomologist and which Lostia received as a gift.

In the most recent faunistic works on the Italian Histeridae (Audisio *et al*. 1995; Penati & Vienna 2002, 2005, 2006a) the record by Bertolani *et al*. (1994) was disregarded as a precaution. This was motivated by the fact that the specimens, although identified by one of the above authors (P. Vienna), could not be compared with the type material and their identity was considered doubtful; additionally, until then the species had always been considered a Sardinian endemic and was known exclusively from Grotta dell'Inferno (*cf.* Vienna 1980; Mazur 1984, 1997; etc.). Later, the finding of specimens in a cave near Vraca in Bulgaria (Thomas & Secq 2000), but most of all the confirmation of the correct identification of the specimens from the Marches after comparison with Sardinian ones and new catches, cleared all doubts about the presence of *G. cerberus* in mainland Italy, ignored also by Mazur (2004) and Yélamos and Lackner (2004). Lastly, the species was very recently recorded also from Serbia, which suggests that "*this species is spread over a much larger area, and that its apparent rarity owes to its secretive habits*" (Lackner & Pavićević 2008).

I here provide the exact collecting data of the specimens from Grotta di Frasassi, all kept in the Vienna collection (CPV): **Literature data.** Italia, Marche [= Marches], Ancona, Genga, Grotta del Santuario [= della Beata Vergine], [340 m], 7.IV.1988, G. Manicardi leg., 3 ex, P. Vienna det. (Bertolani *et al*. 1994). **Unpublished records.** Italia, Marche [= Marches], Ancona, Genga, Gola di Frasassi, Grotta [del Santuario] della Beata Vergine, [340 m], 8.I.2008, su guano [= on guano], G. Carotti leg., 2 ex, P. Vienna det..

Finally, I consider it useful to add that the examination of the many specimens preserved in the collections of MSNG, of the pair from Bulgaria kindly sent to me for study by Michel Secq, and of the specimens from Frasassi (CPV), showed that very few specimens possess, on the pigidium, the famous "*ligne médiane* […] *lisse*" described by Auzat (1923) and which according to this author "*distingue à première vue* Gn. cerberus *des autres espèces du genre* Gnathoncus". This feature, highlighted by all subsequent authors (e.g. Vienna 1980; Thomas & Secq 2000; Lackner & Pavićević 2008) and always used in the identification keys of the Palearctic species of the genus *Gnathoncus* Jacquelin du Val, is deceitful and often misleading considering that a smooth, median longitudinal band is sometimes more or less obvious in specimens of *G. rotundatus* (Kugelann) and *G. nannetensis* (Marseul) (Penati pers. obs.; Secq *in litteris*). On the contrary, the best character for distinguishing *G. cerberus* from all other species with smooth intervals between the punctuation at the tip of the elytra is, in my opinion, the particular sculpture of the pygidium, characterized by transversely

elongate punctures, set far apart and lying on an almost completely smooth surface; these punctures are instead more marked and more tightly set in the other species.

41. *Gnathoncus communis* (Marseul)

Literature data. "Sardinia" (Yélamos & Lackner 2004).

Unpublished records. Nuoro prov.: Sarule, Monte Gonare, 900–950 m, 25.I.2003, in leaf litter, CM, 1 ♀ (CCMe).

Chorotype. 1.01 OLA (Holarctic).

Italian distribution. Aosta Valley, Piedmont, Lombardy, Venetia, Friuli-Venezia Giulia, Liguria, Emilia-Romagna, Tuscany, Basilicata and Sardinia.

Ecology. Occurs in excrements inside nests of various species of medium and large sized birds (corvids, strigids and accipitrids), and in heaps of guano of both marine birds and bats at the entrance of caves. Moreover, according to Vienna (1980) it can be found, although rarely, also in hen houses and under bird carcasses, as well as in foodstuffs and in soil accumulated at the bottom of rot holes of some broadleaved trees (poplars and elms). Yélamos (2002), based on a previous record, mentions it as common in the pellets of birds of prey.

Notes. The above unpublished record confirms the generic mention of the species by Yélamos and Lackner (2004), the first for this species in Sardinia (*cf.* Tab. 1).

42. *Gnathoncus nannetensis* (Marseul)

Literature data. "Sardinia" (Vienna 1980: 50; Audisio *et al*. 1995; Yélamos & Lackner 2004).

Unpublished records. Nuoro prov.: Laconi, 19.V.1967, 1 ex (DPPS).

Chorotype. 1.02 PAL (Palearctic).

Italian distribution. Piedmont, Lombardy, Trentino-Alto Adige, Venetia, Friuli-Venezia Giulia, Liguria, Emilia-Romagna, Tuscany, Marches, Abruzzi, Latium, Basilicata, Calabria and Sardinia.

Ecology. Occurs in any type of decaying organic matter (excrements, carcasses, rotting fungi and vegetables, foodstuffs, hen houses and granaries), but according to Yélamos (2002) it is especially abundant on bat guano accumulated close to the entrance of caves and in the nests of many bird species.

Notes. Penati and Vienna (2002) considered this species, previously recorded only in the regional distribution table of Italian histerids (Vienna 1980), as absent from Sardinia, due to the lack of Sardinian specimens in the numerous collections examined. The specimens preserved in the DPPS collections and determined by P. Vienna confirm the correctness of the previous record and the presence of the species on the island.

43. *Gnathoncus rotundatus* (Kugelann)

Gnathoncus punctulatus Thoms.: Bertolini 1904: 49; Porta 1926: 375
Gnathoncus punctulatus Thoms. v. *subsuturalis* Reitt.: Luigioni 1929: 363; Porta 1934: 150; Barajon 1966
Gnathoncus nanus (Scriba): Vienna 1980: 121; Cassola 1982: 713

Literature data. "All of Italy" (Bertolini 1904; Porta 1926). "Sardinia" (Luigioni 1929; Porta 1934; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Cagliari, X.1939, UL, 1 ♂ (CUL). Sassari prov.: Borutta, Grotta [= cave] "Sa Rocca Ulari" n. 257 Sa/SS, 10.X.1976, GGr, 2 ex (Cassola 1982). Isola Tavolara, SW part, 9.XI.1986, with sieve, RP, 1 ex (MSNG). Laerru, Grotta [= cave] de su Coloru, 6.VII.1982, MG, 2 ex (CMG). Monte Tudurighe-Muros, Grotta [= cave] del Diavolo, 19.X.1975, VI/

GR, 1 ex (CPV). Perdasdefogu, Grotta [= cave] Sant'Angurtidorgiu Mannu, 11.VII.1971, SPu, 1 ex (CPV). San Pietro Gorres Borotta, Grotta [= cave] sa Rocca Olari, 17.X.1976, GGr, 1 ex (CPV).

Unpublished records. Cagliari prov.: Assemini, sd, UL, 1 ex (CAD). Cagliari, sd, UL, 4 ex (CAD). San Vito, IV.1872, RG, 1 ex (MSNG). Sassari prov.: Golfo Aranci, VIII.1907, AD, 2 ex (CAD); *idem*, sd, 1 ex (CAD). Seui, 7.V.1902, AD, 1 ex (CAD).

Chorotype. Subcosmopolitan.

Italian distribution. Aosta Valley, Piedmont, Lombardy, Trentino-Alto Adige, Venetia, Liguria, Emilia-Romagna, Tuscany, Umbria, Marches, Latium, Apulia, Basilicata, Sicily and Sardinia.

Ecology. Identical to the aforementioned species.

44. *Saprinus* (*Saprinus*) *acuminatus acuminatus* (Fabricius)

Saprinus (*Saprinus*) *subnitidus* Mars.: Luigioni 1929: 361; Barajon 1966

Literature data. "Sardinia" (Luigioni 1929; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004). Oristano prov.: Monte Arci, rio Is Cantareddus, 200 m, 25.V.1982, on donkey dung, CM, 1 ex (CCMe). Oristano, stagno di Mistras, 27.X.1976, under stone, CM, 1 ex (CCMe). Sassari prov.: Oschiri, Lago Coghinas, presso [= near] Centrale Pedredu, 165 m, 28.V.1995, FA, 1 ex (CFA).

Unpublished records. "Sardinia", sd, RMe, 1 ♀ (MSNG as *Saprinus subnitidus* Mars., det. G. Lewis, 1903). Sassari prov.: Golfo Aranci, V.1903, AD, 1 ex (CAD).

Chorotype. 1.06 CEM (Centralasiatic-Europeo-Mediterranean).

Italian distribution. Piedmont, Lombardy, Venetia, Liguria, Emilia-Romagna, Tuscany, Umbria, Marches, Latium, Campania, Abruzzi, Apulia, Basilicata, Calabria, Sicily and Sardinia.

Ecology. A saprophile found on carcasses, excrements and decaying vegetable matter.

45. *Saprinus* (*Saprinus*) *algericus* (Paykull)

Saprinus Algiricus [sic!] Payk.: Bargagli 1871: 41

Literature data. "Sardinia" (Marseul, 1855; Bargagli 1871; Bertolini 1872–1878, 1904; Porta 1926; Luigioni 1929; Barajon 1966; Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Cagliari, Colle San Michele, 14.IX.1971, CM, 1 ex (CPV; Vienna 1980); *idem*, Monte Claro, 5.VII.1980, on dog carcass, CM, 2 ex (CCMe); *idem*, Monte Urpinu, 16.IX.1976, on cat carcass, CM, 8 ex (6 CCMe, 2 CPV; Vienna 1980). San Vito, IV.1872, RG, 14 ex (8 MSNG, 3 CAD, 1 CGB, 2 CPL). Oristano prov.: Oristano, fiume Tirso, Ponte Mannu, 2.X.1981, on ox carcass, CM, 1 ex (CCMe). Tedasuni, Lago Omodeo, 115 m, 21.V.1995, FA, 1 ex (CFA). Sassari prov.: Isola Asinara, dint. Cala d'Oliva, 120 m, 19.V.2004, on heron carcass, MD, 1 ex (CFP). Osilo, loc. sa Mela, 24.V.1974, MF, 1 ex (CMF).

Unpublished records. "Sardinia", sd, 1 ex (CFB as *Saprinus lautus* Er.). Cagliari prov.: Cagliari, sd, RSe, 1 ex (CGMü). Sassari prov.: Golfo Aranci, V.1903, AD, 1 ex (CAD).

Chorotype. 1.09 TEM (Turano-Europeo-Mediterranean).

Italian distribution. Umbria (?), Sicily and Sardinia.

Ecology. The same as its congeners.

Notes. See comments under *Saprinus* (*Saprinus*) *lautus* Erichson in chapter "Excluded and/or doubtful species".

46. *Saprinus* (*Saprinus*) *caerulescens caerulescens* (Hoffmann)

Saprinus semipunctatus F.: Marseul 1855: 377; Bargagli 1871: 41; Bertolini 1872–1878: 84; Costa 1882: 18, 1883: 40; Bertolini 1904: 48; Porta 1926:376; Luigioni 1929: 360; Barajon 1966; Vienna 1980: 50; Audisio *et al*. 1995: 14

Literature data. "Sardinia" (Marseul 1855; Bertolini 1872–1878, 1904; Porta 1926; Luigioni 1929; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Cagliari, dint. (Bargagli 1871); *idem*, IX.1881, "in gran numero intorno ad una carogna" [= in large numbers around a carcass], ACo (Costa 1882); *idem*, 14.V.1962, MM, 1 ex (CMM); *idem*, sd, 1 ex (CDM); *idem*, Colle San Michele, E slope, 14.IX.1971, CM, 4 ex (3 CPV, 1 CRP); *idem*, Monte Claro, 5.VII.1980, on dog carcass, CM, 8 ex (2 CCMe; 5 CGN; 1 CPC); *idem*, Monte Urpinu, 16.IX.1976, on cat carcass, CM, 4 ex (3 CCMe, 1 CRPe). Capoterra, 17.X.1979 (MSNM); *idem*, foce del rio Santa Lucia, 4.VI.1981, on dog carcass, CM, 4 ex (2 CCMe; 2 CGN); *idem*, 6.VIII.1987, on ox carcass, CM, 2 ex (CCMe). Domus de Maria, stagno di Chia, 17.VII.1980, on dead fish, CM, 1 ex (CCMe). Elmas, dint., 10.VII.1980, on dog carcass, CM, 1 ex (CCMe). Flumentorgiu, sd, FS, 7 ex (CGB). Giorgino, beach, 25.V.1973, on cat carcass, CM, 9 ex (3 CPV, 6 MSNTO ex-coll. P. Vienna). Iglesias, dint., IV–VI.1882, "intorno ad una carogna" [= around a carcass], ACo (Costa 1883). Muravera, stagno di Colostrai, 26.V.1974, IB, 51 ex (CPV). Pirri, 11.IX.1976, on dog carcass, CM, 2 ex (CCMe). Porto Scuso (Bargagli 1871). Pula, sd, UL, 2 ♀♀ (CUL). Quartu Sant'Elena, sd, UL, 3 ex (CGB); *idem*, stagno San Forzorio, 13.V.1982, CM, 12 ex (11 CGN, 1 CPC). Santa Margherita di Pula, sd, 1 ex (CIZ). Nuoro prov.: Nurri, loc. Padenti [= Padonti-Nurri], 14.VIII.1941, ES, 11 ex (3 CGD, 5 CGMü, 3 MSNM). Sassari prov.: Golfo Aranci, Marinella, 21.V.1908, AD, 2 ex (CGB). Isola Rossa, 200 m, 20.VI.1995, RPa, 1 ex (CRPa). Isola Tavolara, 9.XI.1986, MB, 1 ex (MSNG). Olbia [= Terranova Pausania], 19.V.1920, 3 ex (CGB). Sassari, stagno di Platamona, 19.V.1974, VR, 1 ex (CFP). Stintino, 20.VII.1973, LB, 2 ex (Vienna & Ratti 1999).

Unpublished records. "Sardinia", sd, 4 ex (CFB as *Saprinus semipunctatus* F.); *idem*, sd, UL, 1 ex (CAD). Cagliari prov.: Cagliari, V.1873, RG, 3 ex (MSNG); *idem*, 20.III.1884, AD, 1 ex (CAD); *idem*, 22.III.1884, 1 ex (CAD); *idem*, stagno Santa Gilla, 30.IX.1973, on dead rat, CM, 1 ex (CCMe). Isola di San Pietro, Carloforte, 27.IV.1902, AD, 3 ex (CAD). Oristano prov.: Oristano, 3.V.1975, SR, 1 ex (CGRa); *idem*, 20.V.1976, SR, 2 ex (CGRa). Sassari prov.: Golfo Aranci, V.1903, AD, 1 ex (CAD). Isola Asinara, VII.1903, SF, 1 ex (MSNG). Nule, 5.X.1958, 1 ex (DPPS). Palau, Porto Puddu, 27.V.1976, RP, 1 ex (CRP).

Chorotype. 1.08 CAM (Centralasiatic-Mediterranean).

Italian distribution. Piedmont, Lombardy, Trentino-Alto Adige, Venetia, Friuli-Venezia Giulia, Liguria, Emilia-Romagna, Tuscany, Umbria, Latium, Campania, Abruzzi, Apulia, Basilicata, Calabria, Sicily and Sardinia.

Ecology. Shows the same characteristics as its congeners.

Notes. In Penati and Vienna (2005, 2006a) the data referring to the specimens from Pula (CUL) are erroneously indicated as "Cagliari, 1936, coll. Museo Genova" (see "Data collection").

47. *Saprinus* (*Saprinus*) *calatravensis* Fuente

Literature data. "Sardinia" (Yélamos & Lackner 2004). Cagliari prov.: Flumentorgiu, VI.1895, FS, 1 ex (Penati & Vienna 2002). Nuoro prov.: Nurri, loc. Padenti [= Padonti-Nurri], 14.VIII.1941, ES, 6 ex (Penati & Vienna 2002). Sassari prov.: Isola Rossa, 20.VI.1995, RPa, 1 ex (CRPa).

Chorotype. 1.08 CAM (Centralasiatic-Mediterranean).

Italian distribution. Piedmont, Venetia, Liguria, Tuscany, Umbria, Marches, Latium, Campania, Abruzzi, Apulia, Basilicata, Calabria, Sicily and Sardinia.

Ecology. Shows the same characteristics as its congeners.

Notes. Due to the scarce morphological differentiation between them, *Saprinus calatravensis*, *S. chalcites* (Illiger) and *S. georgicus* Marseul constitute a group of species difficult to identify without study of the aedeagus, and which have often been confused in the past. Therefore, data referring to a few isolated females

of doubtful identity, deposited in some of the studied collections (for example CCMe), were not included in the present list. The exact Sardinian distribution of these three species can only be assessed after a careful and thorough revision of the specimens from the various collections and extensive field campaigns.

48. *Saprinus* (*Saprinus*) *chalcites* (Illiger)

Literature data. "Sardinia" (Bargagli 1871; Bertolini 1904; Porta 1926; Luigioni 1929; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Assemini, rio Cixerri, 28.VIII.1989 and 9.IX.1989, on dead fish, CM, 2 ex (CCMe). Cagliari, Monte Claro, 5.VII.1980, on dog carcass, CM, 1 ex (CCMe); *idem*, Monte Urpinu, 8.VIII.1971, CM, 1 ex (CPV); *idem*, stagno di Molentargius, 2.IX.1976, on dead gull, CM, 1 ex (CCMe); *idem*, stagno Santa Gilla, 30.IX.1973, CM, 1 ex (CPV). Capoterra, foce del rio Santa Lucia, 6.VIII.1987, on ox carcass, CM, 13 ex (4 CCMe; 7 CGN; 2 CPC); *idem*, 15.V.1989, in cow dung, CM, 1 ex (CCMe). Domus de Maria, stagno Stangioni de su Sali, 29.IX.1978, among dry algae, CM, 1 ex (CCMe). Giorgino, 10.VI.1973, CM, 3 ex (2 MSNTO ex-coll. P. Vienna, 1 CPV). Sinnai, loc. San Basilio, 12.VI.1985, on cat carcass, CM, 2 ex (CCMe). Nuoro prov.: Bortigali, 13.V.1940, MBj, 1 ex (CFP). Nurri, loc. Padenti [= Padonti-Nurri], 14.VIII.1941, ES, 1 ex (CGMü). Oristano prov.: Oristano, Torre Grande, 31.V.1974, IB, 1 ex (CCMe). Sassari prov.: Oschiri, Lago Coghinas, presso [= near] Centrale Pedredu, 165 m, 28.V.1995, FA, 1 ex (CFA). Porto Torres, 7–9.IV.1952, on dead *Chalcides ocellatus* (Forskål) (Squamata, Scincidae) (Strassen 1954). Sassari, loc. Platamona, 19.V.1974, IB, 1 ex (CPV); *idem*, 20.V.1974, PV, 1 ex (CPV); *idem*, stagno di Platamona, 19.V.1974, VR, 1 ex (CFP).

Unpublished records. "Sardinia", sd, 1–4 ex (CFB as *Saprinus chalcites* Illig.); *idem*, sd, 1–8 ex (CFB as *Saprinus chalcites* Illig. "varietates" and "var."). Cagliari prov.: Cagliari, V.1873, RG, 1 ex (MSNG); *idem*, sd, RSe, 2 ex (CGMü). Fluminimaggiore, loc. Perda e Fogu, 150 m, 2.IV.1995, by sieving olive leaf litter, CM, 1 ♂ (CCMe). Giorgino, sd, UL, 1 ex (CAD). Isola di Sant'Antioco, loc. Is Pruinis, beach, 2.VIII.1998, on cow dung, CM, 1 ♂ (CCMe). Quartu Sant'Elena, sd, 1 ex (CAD). San Vito, IV.1872, RG, 5 ex (MSNG). Nuoro prov.: Orune, sd, 11 ex (CAD ex-coll. L. Demarchi). Oristano prov.: Oristano, II.1900, 2 ex (CAD). Sassari prov.: Golfo Aranci, IX.1928, AD, 1 ex (CAD). Sassari, loc. Platamona, beach, 17.V.1974, MF, 1 ex (CMF).

Chorotype. 4.01 AIM (Afrotropical-Indian-Mediterranean).

Italian distribution. Piedmont, Venetia, Friuli-Venezia Giulia, Liguria, Emilia-Romagna, Tuscany, Umbria, Latium, Campania, Apulia, Basilicata, Calabria, Sicily and Sardinia.

Ecology. Shows the same characteristics as its congeners. According to Yélamos (2002), in Spain it is more common along the coast and is only moderately present inland.

Notes. For the reasons mentioned under the previous species, specimens from the Baudi di Selve collection (CFB) were uncritically ascribed to the species *S. chalcites* in that it was impossible to examine the male genitalia and check for the possible presence among them of *S. calatravensis* or *S. georgicus* specimens. Moreover, in Penati and Vienna (2005, 2006a) the specimen from Nurri, loc. Padenti (CGMü) was wrongly attributed to *S. calatravensis*.

49. *Saprinus* (*Saprinus*) *cruciatus cruciatus* (Fabricius)

Literature data. Sassari prov.: Monte Doglia, 400 m, 8.XII.2004, ADg, 1 ♂ (Penati & Vienna 2006c).

Unpublished records. Sassari prov.: Sassari, loc. Giordano, 14.II.1995, AM/DS, 2 ex (CCMe).

Chorotype. 3.02 WME (W-Mediterranean).

Italian distribution. Sardinia.

Ecology. This species seems exclusively attracted by carcasses, particularly those of reptiles.

Notes. Specimens from loc. Giordano were identified by Carlo Meloni and were not examined by me.

50. *Saprinus* (*Saprinus*) *detersus* (Illiger)

Literature data. "All of Italy" (Bertolini 1904; Porta 1926). "Sardinia" (Bargagli 1871; Bertolini 1872–1878; Luigioni 1929; Barajon 1966; Audisio *et al*. 1995). Cagliari prov.: Assemini, rio Cixerri, 26.III.1989, on sheep carcass, CM, 2 ex (CCMe). Cagliari (Vienna 1980); *idem*, loc. Bingia Matta (Vienna 1980); *idem*, 20.III.1973, CM, 2 ex (CPV); *idem*, Monte Claro, 5.VII.1980, on dog carcass, 3 ex (CCMe); *idem*, Monte Urpinu (Vienna 1980); *idem*, 21.III.1976, on dog carcass, CM, 1 ex (CCMe); *idem*, 16.IX.1976, on cat carcass, CM, 3 ex (2 CCMe, 1 CRPe); *idem*, stagno Santa Gilla, 30.IX.1973, on dead rat, CM, 1 ex (Vienna 1980; Vienna & Ratti 1999). Burcei, IV.1937, UL, 2 ♂♂ (CUL). Domus de Maria, stagno di Chia (Vienna 1980); *idem*, 25.IV.1977, under dry algae, CM, 1 ex (CCMe). Elmas, dint., 10.VII.1980, on dog carcass, CM, 2 ex (CCMe). Geremeas, rio Geremeas, XI.1999 (CPV). Monti dei Sette Fratelli, loc. Campuomu, 400 m, 4.V.1985, on rotting fruit, CM, 2 ex (CCMe); *idem*, loc. Maidopis and homonymous rio, 350 m, 21.VI.1986, in pitfall trap baited with meat, CM, 2 ex (CCMe). Muravera, stagno di Colostrai (Vienna 1980); *idem*, 28.V.1974, IB, 10 ex (8 CPV, 1 MSNTO ex-coll. P. Vienna, 1 CFP). Quartu Sant'Elena, loc. Is Ammostus [= Amostus], IV.1885, UL, 3 ex (CAD). Sant'Isidoro, 5.V.1982, under rubbish bags, CM, 1 ex (CCMe). Serramanna, north-eastern outskirts, loc. Perda Fitta (Vienna 1980); *idem*, 3.VII.1971, CM, 1 ex (CPV). Sinnai, loc. San Basilio, 12.VI.1985, on cat carcass, CM, 3 ex (CCMe). Nuoro prov.: Fonni, Monte Spada, mountain refuge, 1300 m, 18.VII.1985, on fox carcass, CM, 6 ex (CCMe). Nurri, loc. Padenti [= Padonti-Nurri], 14.VIII.1941, ES, 2 ex (CGMü). Oniferi, 22.V.1940, MBj, 1 ex (CFP). Orgosolo, Foresta di Montes, 5.V.1986, DB, 2 ex (1 CDB, 1 CFP). Ottana (Vienna 1980). Posada, 22.III.1965 (CVV). Oristano prov.: Oristano, loc. Perda Fitta, 3.VII.1971, on horse carcass, CM, 1 ex (CCMe). Santa Giusta, stagno di Santa Giusta (Vienna 1980). Tharros, 1993 (CSZ). Sassari prov.: Chilivani (Vienna 1980); *idem*, 10.VII.1960, 1 ex (CPV). Fiume Tirso, 1994 (CEM). Golfo Aranci, IX.1912, AD, 1 ex (CAD). Isola Caprera, V.1998, GMr, 1 ex (CFP). Isola Rossa, 200 m, 20.VI.1995, RPa, 9 ex (CRPa). Isola Tavolara, Spalmatore di Terra, 8.VI.1989, RP, 1 ex (MSNG). [foot of] Monte Limbara, plane named "vuccaccia", 11.VI.1882, near fox carcass, ACo (Costa 1883).

Unpublished records. Cagliari prov.: Arbus, Piscinas di Ingortosus, 5.III.2001, RL, 1 ex (CPM). Cagliari, V.1873, RG, 1 ex (MSNG); *idem*, sd, RSe, 1 ex (CGMü). Capo Pecora, 5.IV.2004, GS/SFe, 11 ex (CPC). San Vito, IV.1872, RG, 9 ex (7 MSNG, 2 CAD). Villacidro, rio Cannisoni, 401 m, 19–24.V.2006, pitfall trap (baited with meatless bones), PC/MBr/DBi/DW, 13 ex (CNBFVR). Nuoro prov.: Monte Albo, 24.V.1976, under dead hedgehog, RP, 30 ex (CRP). Ottana, 7.VI.1976, 3 ex (DPPS). Oristano prov.: Oristano, foce del Tirso, 14.IV.1993, on ovine carcass, CM, 2 ♂♂ (CCMe). Sassari prov.: Isola Soffi, 3.VII.1987, VV, 1 ex (MZRM). Isola Spargi, 25.V.1984, on *Dracunculus* sp. spathes, GC, 2 ex (CCMe). Ozieri, 10.IV.1902, AD, 3 ex (CAD). Sassari, 25.X.1965, 1 ex (DPPS); *idem*, 10.VI.1996, DS, 1 ex (CDS). Trinità d'Agultu, loc. Lu Colbu, 15.IV.1996, DS, 4 ex (2 CDS, 2 CCMe).

Chorotype. 3.02 WME (W-Mediterranean).

Italian distribution. Aosta Valley, Piedmont, Lombardy, Trentino-Alto Adige, Venetia, Friuli-Venezia Giulia, Liguria, Emilia-Romagna, Tuscany, Umbria, Marches, Latium, Campania, Abruzzi, Molise, Apulia, Basilicata, Calabria, Sicily and Sardinia.

Ecology. Identical to that of its congeners.

Notes. In Penati and Vienna (2005, 2006a) the data referring to the specimens from Burcei (CUL) are erroneously indicated as "Quartu Sant'Elena, coll. Museo Genova" (see "Data collection").

51. *Saprinus* (*Saprinus*) *furvus* Erichson

Literature data. "Sardinia" (Bargagli 1871; Bertolini 1872–1878, 1904; Porta 1926; Luigioni 1929; Barajon 1966; Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Cagliari (Müller 1955; Vienna 1980); *idem*, Colle San Michele (Vienna 1980); *idem*, 14.IX.1971, on dog carcass, CM, 3 ex (1 CCMe, 2 CPV); *idem*, Monte Claro, 5.VII.1980, on dog carcass, CM, 2 ex (CCMe); *idem*, Monte Urpinu (Vienna 1980); *idem*,

16.IX.1976, on cat carcass, CM, 7 ex (6 CCMe, 1 CRPe); *idem*, stagno Santa Gilla (Vienna 1980); *idem*, 30.IX.1973, CM, 1 ex (CPV). Capoterra, foce del rio Santa Lucia, 4.VI.1981, on dog carcass, CM, 1 ex (CCMe); *idem*, 6.VIII.1987, on ox carcass, CM, 6 ex (CCMe). Domus de Maria, loc. Chia, sd, 1 ex (CPE); *idem*, 25.IV.1990, DS, 1 ex (CEM); *idem*, stagno di Chia, 25.IV.1977, on dead fish, CM, 1 ex (CCMe). Isola di San Pietro (Vienna 1980); *idem*, 18.V.1971, LB, 1 ex (CPV). Muravera, stagno di Colostrai (Vienna 1980); *idem*, 27.V.1974, IB, 3 ex (2 MSNTO ex-coll. P. Vienna, 1 CPV); *idem*, loc. San Giovanni, beach (CCMe). Pirri, dint., 11.IX.1976, on dog carcass, CM, 1 ex (CCMe). Sinnai, loc. San Basilio, 12.VI.1985, on cat carcass, CM, 3 ex (CCMe). Nuoro prov.: Fonni, Monte Spada, mountain refuge, 1300 m 18.VII.1985, on fox carcass, CM, 4 ex (CCMe). Laconi, loc. Funtanamela, rio Bau Onu, 700 m, 10.IX.1988, on ox bones, CM, 1 ex (CCMe). Nurri, loc. Padenti [= Padonti-Nurri] (Müller 1955; Vienna 1980); *idem*, 14.VIII.1941, ES, 23 ex (3 MSNM, 3 CGD; 16 CGMü, 1 CFP). Sorgono, dint. (Krausse 1913). Oristano prov.: Cabras, Turri Seu, 29.V.1996, LS, 1 ex (CLS). Putzu Idu, 22.V.1974, GBa, 4 ex (MSNG). Sassari prov.: Badesi, foce del Coghinas, 30.VI.1995, in cow dung, RPa, 1 ex (CRPa). Isola Rossa, 200 m, 20.I.1993, RPa, 27 ex (24 CRPa, 3 CPV). Isola Santo Stefano, loc. Santo Stefano, VI.1971, RS, 1 ex (CPV). Olbia [= Terranova Pausania], 19.V.1920, 1 ex (CGB). Santa Teresa Gallura, 1980, 1 ex (CFCa). Sassari, loc. Platamona (Vienna 1980); *idem*, 19.V.1974, IB, 1 ex (CPV); *idem*, stagno di Platamona, 19.V.1974, VR, 21 ex (CFP). Stintino, 20.VII.1973, LB, 2 ex (Vienna & Ratti 1999).

Unpublished records. "Sardinia", sd, ex. pl. (CFB). Cagliari prov.: Cagliari, 21.II.1885, AD, 1 ex (CAD); *idem*, sd, RSe, 3 ex (CGMü); *idem*, Pirri, X.1988, DS, 1 ex (CDS). Nuoro prov.: Budoni, loc. Tamarispa, 9.IX.1999, trap baited with meat, RPa, 1 ex (CRPa). Oristano prov.: San Giovanni di Sinis, Coili [?], 22.V.1976, 4 ex (DPPS). Sassari prov.: Isola Asinara, VII.1903, SF, 1 ex (MSNG); *idem*, VIII.1903, 1 ex (MSNG). Palau, Porto Puddu, 27.V.1976, RP, 51 ex (CRP).

Chorotype. 3.01 MED (Mediterranean).

Italian distribution. Lombardy, Trentino-Alto Adige (?), Emilia-Romagna, Tuscany, Latium, Campania, Abruzzi, Apulia, Basilicata, Calabria, Sicily and Sardinia.

Ecology. Similar to the previous species.

52. *Saprinus* (*Saprinus*) *georgicus* Marseul

Literature data. "Sardinia" (Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Assemini, rio Cixerri, 28.VIII.1989, on dead fish, CM, 1 ex (CCMe). Buggerru [= Buggenu (sic!)] (Vienna 1980). Cagliari, stagno di Molentargius (Vienna 1980); *idem*, 2.IX.1976, on dog carcass, CM, 1 ex (CCMe); *idem*, 15.VII.1978, on dead gull, CM, 1 ex (CCMe). Domus de Maria (Vienna 1980); *idem*, VI.1955, LC, 2 ex (MSNM). Fluminimaggiore, 1000 m, 1990, 1 ex (CFCa). Giara di Gesturi [= Planu sa Giara] (Vienna 1980). Isola di Sant'Antioco, loc. Calasetta, 27.IX.1980, RP, 1 ex (MSNG). San Priamo, dint. (CCMe). Nuoro prov.: Budoni, loc. Tanaunella, 2.IX.1999, on sheep dung, RPa, 1 ex (CRPa). Fonni, Monte Spada, mountain refuge, 1300 m, 18.VII.1985, on fox carcass, CM, 2 ex (CCMe). Macomer, loc. Bara, staz. FdS, 650 m, 9.X.1981, on dog carcass, CM, 1 ex (CCMe). Ottana (Vienna 1980). Sorgono (Dahlgren 1968; Vienna 1980); *idem*, 750 m, 25.VII.1973, RPi, 1 ex (CFP). Oristano prov.: Monte Arci, rio Is Cantareddus, 200 m, 25.V.1982, on donkey dung, CM, 3 ex (CCMe). Sassari prov.: Alghero (Vienna 1980). Badesi, foce del Coghinas, 30.VI.1995, in trap baited with wild boar meat, RPa, 7 ex (5 CRPa, 2 MSNTO ex-coll. P. Vienna). Isola Caprera (Vienna 1980); *idem*, VI.1944, RF, 3 ex (MSNM). Isola Rossa, 200 m, 20.V.1993, RPa, 8 ex (5 CRPa, 3 CPV). Isola Santa Maria, Cala Santa Maria, 26.IX.1985, reed bed, RP, 1 ex (MSNG). Isola Spargiotto, 25.IX.1985, on dead shag, RP, 1 ex (MSNG). Santa Teresa Gallura (Vienna 1980); *idem*, 14.VIII.1959, RR, 5 ex (MSNM); *idem*, Capo Testa, 20.VII.1959, RR, 1 ex (CGM). Sassari, loc. Platamona, beach, 17.V.1974, MF, 1 ex (CMF).

Unpublished records. Cagliari prov.: Cagliari, stagno di Molentargius, 22.X.1989, DS, 1 ♀ (CDS). Capoterra, foce del rio Santa Lucia, 6.VIII.1987, CM, 1 ♂ (CGN). Isola di San Pietro, Guardia dei Mori, 27.VI.1987, VV, 5 ♂♂ (MZRM). Nuoro prov.: Budoni, loc. Tamarispa, 9.IX.1999, trap baited with meat,

RPa, 4 ex (CRPa). Nurri, loc. Padenti [= Padonti-Nurri], 14.VIII.1941, ES, 6 ex (CGMü). Ottana, 27.VIII.1974, 1 ex (DPPS). Oristano prov.: Oristano, sd, UL, 1 ♀ (CUL). San Giovanni di Sinis, Coili [?], 22.V.1976, 1 ♂ (DPPS). San Leonardo, VI.1937, UL, 1 ♂ (CUL). Sassari prov.: Alghero, 20.IX.1964, 1 ex (DPPS). Palau, Porto Puddu, 27.V.1976, RP, 42 ex (CRP). Santa Teresa Gallura, loc. Porto Pozzo, 16.VIII.1989, dry meadow, in cow dung, GN, 7 ♂♂ and 8 ♀♀ (13 CGN, 2 CPC). Stintino, 30.V.1976, RP, 2 ex (CRP).

Chorotype. 1.06 CEM (Centralasiatic-Europeo-Mediterranean).

Italian distribution. Piedmont, Venetia, Friuli-Venezia Giulia, Liguria, Emilia-Romagna, Tuscany, Marches, Latium, Campania, Apulia, Basilicata, Calabria, Sicily and Sardinia.

Ecology. Shows the same characteristics as its congeners.

Notes. See *Saprinus calatravensis* and *S. chalcites*. In Penati and Vienna (2005, 2006a) the specimens from Oristano and San Leonardo (CUL) are assigned to *S. chalcites* and their data are erroneously given as "Cagliari, 1936, coll. Museo Genova" (see "Data collection").

53. *Saprinus* (*Saprinus*) *godet* (Brullé)

Saprinus (*Saprinus*) *godeti* [sic!] (Brullé, 1832): Mazur 2004: 98

Literature data. "Sardinia" (Yélamos & Lackner 2004). Cagliari prov.: Iglesias, dint., sd (Penati & Vienna 2002; CCP). Isola di San Pietro, Monte Guardia dei Mori, 140 m, 27.VI.1987, RP, 1 ex (Penati & Vienna 2002; MSNG). Isola di Sant'Antioco, loc. Calasetta, 27.IX.1980, RP, 1 ex (Penati & Vienna 2002; MSNG).

Unpublished records. Cagliari prov.: Iglesias, 1990 (CCP).

Chorotype. 1.08 CAM (Centralasiatic-Mediterranean).

Italian distribution. Apulia, Basilicata and Sardinia.

Ecology. According to the literature it is found only on carcasses.

54. *Saprinus* (*Saprinus*) *politus politus* (Brahm)

Saprinus speculifer Lat.: Bargagli 1871: 41; Costa 1883: 40
Saprinus pulcherrimus Weber: Bertolini 1904: 48

Literature data. "Sardinia" (Bargagli 1871; Bertolini 1904; Porta 1926; Luigioni 1929; Horion 1949; Barajon 1966; Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Cagliari (Vienna 1980); *idem*, dint., sd, 1 ex (CDM). Capoterra, foce del rio Santa Lucia, loc. Bau s'Arruiu de sa Pira (Vienna 1980); *idem*, 6.IV.1976, on cow dung, CM, 1 ex (CCMe). Decimoputzu, dint., IV–VI.1882, "poco frequente" [uncommon], ACo (Costa 1883). Flumentorgiu, 11.V.1894, FS, 1 ex (CGB). Giara di Gesturi, loc. Feurras, 580 m, 8.VI.1984, on cow dung, CM, 1 ex (CCMe). Isola di San Pietro (Vienna 1980); *idem*, loc. Cala Lunga, 27.III.1977, on half-fresh cow dung, CM, 1 ex (CCMe). Monti dei Sette Fratelli, loc. Campuomu, 400 m, 4.V.1985, on rotting fruit, CM, 1 ex (CCMe). Quartu Sant'Elena, loc. Capitana, rio Cuba, 16.III.1977, under stone, CM, 1 ex (CCMe). San Vito, 1872 (CPL). Sant'Antonio di Santadi, dint., 29.IV.1990, in mastic leaf litter, CM, 1 ex (CCMe). Nuoro prov.: Fonni, Monte Spada, mountain refuge, 1300 m, 18.VII.1985, on fox carcass, CM, 2 ex (CCMe). Macomer, dint. Bara, 620 m (CCMe). Monte Albo, VI.1911, AD, 1 ex (CAD); *idem*, 2.V.1929, AD, 1 ex (CAD). Monte Gennargentu, Punta La Marmora, 1836 m, 7.VI.1995, DS, 1 ex (CEM). Orune, sd, LDe, 4 ex (CGB). Sorgono, dint. (Krausse 1913). Villanova Strisaili (Vienna 1980); *idem*, dint., 1000 m, 23.V.1974, VR, 21 ex (CFP). Oristano prov.: Spiaggia [= beach] is Arenas, 1998, GMr (CGMr). Sassari prov.: Isola Asinara, dint. Campu Perdu, 2003 (MSNC). Isola Caprera (Vienna 1980); *idem*, VI.1944, RF, 1 ex (MSNM). Isola Maddalena, 22.V.1994, BC, 2 ex (CBC). Isola Rossa, 200 m, 20.VI.1996, RPa, 6 ex (4 CRPa, 2 CPV). Stintino, 21.V.1974, ER, 1 ex (Vienna & Ratti 1999).

Unpublished records. "Sardinia", sd, 4 ex (CFB as *Saprinus speculifer* Latr.). Cagliari prov.: Cagliari, sd, UL, 2 ex (CAD). Giara di Gesturi, Pauli Majori di Tuili, 530 m, 10.V.1995, FA, 1 ex (CFA). Isola di San Pietro, Carloforte, 10.VI.1989, GO, 1 ex (MSNG). San Vito, IV.1872, RG, 10 ex (6 MSNG, 4 CAD). Solanas, loc. Santa Barbara, 3.III.2008, on half-fresh cow dung, CM, 1 ex (CCMe). Villacidro, rio Cannisoni, 401 m, 19–24.V.2006, pitfall trap (baited with meatless bones), PC/MBr/Dbi/DW, 4 ex (CNBFVR). Nuoro prov.: Campeda, 22.IV.1902, AD, 1 ex (CAD). Monte Albo, 24.V.1976, under dead hedgehog, RP, 4 ex (CRP). Monti del Gennargentu, Bruncu Spina, 28.V.1976, 1600 m, RP, 1 ex (CRP). Monti del Marghine, 800 m, 3.V.1978, RP, 1 ex (MSNG). Sassari prov.: Golfo Aranci, V.1903, AD, 1 ex (CAD). Isola Asinara, dint. Cala Reale, 20 m, 21.V.2004, in horse dung, MD, 1 ex (MSNC); *idem*, dint. Campu Perdu, 20 m, 19.V.2004, in horse dung, MD, 3 ex (MSNC); *idem*, 21.V.2004, in horse dung, 3 ex (MSNC); *idem*, 19.VI.2004, in horse dung, 4 ex (MSNC); *idem*, dint. Fornelli, 20 m, 20.V.2004, in horse dung, MD, 1 ex (MSNC); *idem*, dint. Trabuccato, 10 m, 20.V.2004, in sheep dung, MD, 1 ex (MSNC). Nurra, dint. Ezimannu, 10 m, 2.IV.2004, in sheep dung, D/F, 1 ex (MSNC). Palau, Porto Puddu, 27.V.1976, RP, 2 ex (CRP). Ploaghe, 13.V.1892, AD, 1 ex (CAD). Trinità d'Agultu, loc. Lu Colbu, 15.IV.1996, DS, 1 ex (CDS).

Chorotype. 2.04 SEU (S-European).

Italian distribution. Piedmont, Lombardy, Liguria, Latium, Campania, Abruzzi, Apulia, Basilicata, Calabria, Sicily and Sardinia.

Ecology. Shows the same characteristics as its congeners; spread from coastal to mountain habitats.

Notes. In Penati and Vienna (2005, 2006a) the specimens from "Monte Albo, VI.1911" (CAD) is ascribed, due to a transcription error, to *Hypocaccus* (*Hypocaccus*) *crassipes* (Erichson).

55. *Saprinus* (*Saprinus*) *semistriatus* (Scriba)

Saprinus punctatostriatus Mars.: Binaghi & Moro 1946: 63; Barajon 1966

Literature data. "Sardinia" (Luigioni 1929; Barajon 1966; Vienna 1971, 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004). Nuoro prov.: Aritzo, 7.VI.1901, AD (Binaghi & Moro 1946). Fonni, Monte Spada, mountain refuge, 1300 m, 18.VII.1985, on fox carcass, CM, 4 ex (CCMe).

Unpublished records. Cagliari prov.: Capoterra, foce del rio Santa Lucia, 6.VIII.1987, on ox carcass, CM, 1 ex (CCMe). Nuoro prov.: Monte Albo, 24.V.1976, under dead hedgehog, RP, 4 ex (CRP).

Chorotype. 1.02 PAL (Palearctic).

Italian distribution. All regions except Aosta Valley and Molise.

Ecology. Shows the same characteristics as its congeners.

Notes. In Penati and Vienna (2005, 2006a) the specimens from "Monte Spada" (CCMe) are ascribed, due to a transcription error, to *Saprinus* (*Saprinus*) *subnitescens* Bickhardt (see notes under that species).

56. *Saprinus* (*Saprinus*) *subnitescens* Bickhardt

Saprinus nitidulus Payk.: Bargagli 1871: 41; Bertolini 1872–1878: 84; Costa 1882: 18, 1883: 40
Saprinus semistriatus Scr.: Krausse 1913: 61
Saprinus (*Saprinus*) *semistriatus* Scriba: Porta 1926: 376; Luigioni 1929: 361; Binaghi & Moro 1946: 63; Müller 1955: 2; Barajon 1966

Literature data. "All of Italy" (Porta 1926). "Sardinia" (Bargagli 1871; Bertolini 1872–1878; Luigioni 1929; Barajon 1966; Vienna 1971, 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Cagliari, dint., IX.1881, around a carcass, ACo (Costa 1882); *idem*, 21.V.1884, AD, 1 ex (Binaghi & Moro 1946; CAD); *idem*, sd, RSe, 4 ex (Müller 1955; CGMü); *idem*, Colle San Michele, E slope, 14.IX.1971, CM, 4 ex (2 CPV, 2 CRP); *idem*, Monte Urpinu, 19.IX.1970, on cat carcass, CM, 1 ex (CCMe); *idem*, 7.VIII.1971, on cat

carcass, CM, 1 ex (MSNTO ex-coll. P. Vienna); *idem*, 16–18.IX.1976, on cat carcass, CM, 8 ex (7 CCMe, 1 CRPe). Capoterra, dint., 15.IX.1976, on dog carcass, CM, 1 ex (CCMe); *idem*, foce del rio Santa Lucia, 4.VI.1981, on dog carcass, CM, 1 ex (CCMe); *idem*, 6.VIII.1987, on ox carcass, CM, 5 ex (3 CCMe, 2 CGN). Decimomannu, rio Sesi (CCMe). Elmas, pineta [= pine forest] San Lorenzo, 1.VIII.1976, under rubbish bag, CM, 1 ex (CCMe). Isola di San Pietro, Carloforte, 20.V.1901, AD, 1 ex (Binaghi & Moro 1946; CAD). Isola di Sant'Antioco, Cala Lunga, 14.VI.1989, NS, 9 ex (MSNG). Isola Vacca, 26.VI.1987, RP, 1 ex (MSNG). Monti dei Sette Fratelli, loc. Maidopis and homonymous rio, 350 m, 21.VI.1986, in pitfall trap baited with meat, CM, 2 ex (CCMe). Muravera, stagno di Colostrai, 28.V.1974, IB, 1 ex (CPV). Pirri, dint., 11.IX.1976, on dog carcass, CM, 2 ex (CCMe). Quartu Sant'Elena, XI.1901, UL, 2 ex (Binaghi & Moro 1946; CAD); *idem*, stagno San Forzorio, 13.V.1982, on dog carcass, CM, 2 ex (CCMe); *idem*, stagno di Simbirizzi, 12.VIII.1974, CM, 1 ex (CPV). San Vito, sd (Binaghi & Moro 1946). Sant'Isidoro, 5.V.1982, under rubbish bag, CM, 2 ex (CCMe). Sardara, dint., 25.V.1982, on sheep dung, CM, 2 ex (CCMe). Senorbì, loc. Nuracroba, 26.X.1976, on sheep carcass, CM, 1 ex (CCMe). Serramanna, north-eastern outskirts, loc. Perda Fitta, 3.VII.1971, on horse carcass, CM, 2 ex (1 MSNTO ex-coll. P. Vienna, 1 CPV). Sinnai, loc. San Basilio, 12.VI.1985, on cat carcass, CM, 1 ex (CCMe). Nuoro prov.: Badde Salighes and Monte Palai, 1000 m, 22.V.1955, GMi, 1 ex (MSNM). Fonni, Monte Spada, mountain refuge, 1300 m, 18.VII.1985, on fox carcass, CM, 17 ex (CCMe). Macomer, loc. Bara, staz. FdS, 650 m, 9.X.1981, on dog carcass, CM, 1 ex (CCMe). Monte Albo, 650 m, 19.VII.1987, ER, 1 ex (Vienna & Ratti 1999). Nurri, loc. Padenti [= Padonti-Nurri], 14.VIII.1941, ES, 13 ex (Müller 1955; 3 MSNM, 5 CGD, 4 CGMü, 1 CFP). Oniferi, 22.V.1940, MBj, 1 ex (CFP). Sorgono, dint. (Krausse 1913; Dahlgren 1962). Oristano prov.: Isola Mal di Ventre, 15.VI.1989, RP, 1 ex (MSNG). Oristano (Dahlgren 1962). Tedasuni, Lago Omodeo, 115 m, 21.V.1995, FA, 1 ex (CFA). Sassari prov.: Golfo Aranci, sd, AD (Binaghi & Moro 1946). Isola Caprera, VI.1944, RF, 2 ex (MSNM). Isola Tavolara, 15.VI.1967, EM, 1 ex (MSNM); *idem*, Spalmatore di Terra, 8.VI.1989, RP, 1 ex (MSNG). [foot of] Monte Limbara, plain named "vuccaccia", 11.VI.1882, around fox carcass, ACo (Costa 1883). Ploaghe, 13.V.1892, AD, 1 ex (Binaghi & Moro 1946; CAD).

Unpublished records. Cagliari prov.: Cagliari, V.1873, RG, 1 ex (MSNG); *idem*, 19.IV.1883, AD, 4 ex (CAD); *idem*, Pirri, X.1988, DS, 1 ex (CDS). Isola di Sant'Antioco, loc. Is Pruinis, beach, 2.VIII.1998, on cow dung, CM, 2 ex (CCMe). Maracalagonis, pond, 87 m, 18.V.1993, on dead gallinacean, CM, 1 ♂ (CCMe). San Vito, IV.1872, RG, 5 ex (MSNG). Serdiana, pond, 100–106 m, 12.V.2003, on a dead gull, CM, 2 ♂♂ (CCMe). Villacidro, rio Cannisoni, 401 m, 19–24.V.2006, pitfall trap (baited with meatless bones), PC/MBr/Dbi/DW, 16 ex (CNBFVR). Nuoro prov.: Budoni, loc. Tamarispa, 9.IX.1999, trap baited with meat, RPa, 4 ex (CRPa). Fonni, Monte Spada, mountain refuge, 1300 m, 18.VII.1985, CM, 9 ex (8 CGN, 1 CPC). Monte Albo, 24.V.1976, under dead hedgehog, RP, 7 ex (CRP). Oliena, 9.IX.1970, 1 ♂ (DPPS). Orune, sd, 3 ex (MSNG ex-coll. L. Demarchi). Oristano prov.: Oristano, 1936, UL, 1 ♂ and 1 ♀ (CUL); *idem*, 30.VI.1954, 1 ex (DPPS).

Chorotype. 1.06 CEM (Centralasiatic-Europeo-Mediterranean).

Italian distribution. All regions.

Ecology. Shares the same ecological needs as its congeners. Often found together with *S. semistriatus*.

Notes. In Penati and Vienna (2005, 2006a) the specimens from "Cagliari" (CGMü) and "Padonti-Nurri" (MSNM, CGD, CGMü) are ascribed, due to an interpretation error, to *S. semistriatus*. Indeed, in the past, *S. subnitescens* was considered a synonym of *S. semistriatus* (*cf.* Binaghi & Moro 1946; Müller 1955); this caused considerable confusion regarding the distribution of these two species and of *Saprinus* (*Saprinus*) *planiusculus* Motschulsky, all three being of very similar appearance and easy to mistake for one another. Despite Luigioni's (1929) bibliographic record, later cited by Vienna (1980), no Sardinian specimens of *S. planiusculus* were found in the examined collections. In Penati and Vienna (2005, 2006a) the specimens from "Oristano" (CUL) are attributed to *S. semistratus* and their respective data are erroneously given as "Cagliari, 1936, coll. Museo Genova" (see "Data collection").

57. *Saprinus* (*Microsaprinus*) *gomyi* M. Secq & B. Secq

Literature data. Oristano prov.: Oristano, foce del Tirso, 26.V.1991, CM, 1 ♂ (Vienna 2001).

Chorotype. 2.04 SEU (S-European).

Italian distribution. Sardinia.

Ecology. Unknown.

58. *Chalcionellus aemulus* (Illiger)

Saprinus aemulus Ill.: Bertolini 1904: 48
Saprinus (*Hypocaccus*) *aemulus* Illig.: Porta 1926: 377
Hypocacculus aemulus Ill.: Luigioni 1929: 361
Chalcionellus (*Izpaniolus*) *aemulus* (Illiger): Vienna 1980: 165; Audisio *et al*. 1995: 14

Literature data. "Sardinia" (Bertolini 1904; Porta 1926; Luigioni 1929; Porta 1934; Barajon 1966; Audisio *et al*. 1995; Yélamos & Lackner 2004); *idem*, sd, FB (Reichardt 1932). Cagliari prov.: Flumentorgiu, 28.V.1894, FS, 1 ex (CGB). Giara di Gesturi [= Planu sa Giara] (Vienna 1980); *idem*, 19.V.1955, LC, 2 ex (MSNM). Isola di San Pietro, 15.V.1971, LB, 1 ex (CPV). Isola di Sant'Antioco, 20.IX.2001 (CPV). Monti dei Sette Fratelli, Monte Cresia, 700–750 m, 1.VIII.1987, on half-fresh cow dung, CM, 1 ex (CCMe). Nuoro prov.: Budoni, loc. Tanaunella, 2.IX.1999, on sheep dung, RPa, 1 ex (CRPa). Cala Gonone, Grotta [= cave] del Bue Marino (Vienna 1980); *idem*, 18.VIII.1959, RR, 1 ex (MSNM). Flumendosa, 30.VI.1987, PE, 1 ex (CPV). Fonni, Monte Spada, mountain refuge, 1300 m, 18.VII.1985, on fox carcass, CM, 1 ex (CCMe). Nurri, loc. Padenti [= Padonti-Nurri], 14.VIII.1941, ES, 1 ex (CGMü). Seui, loc. San Girolamo, staz. FdS, 800 m, 25.VI.1987, on half-fresh cow dung, CM, 1 ex (CCMe). Siniscola, spiaggia alla foce del [= beach at mouth of] rio Berchida, 25.VII.1987, ER, 3 ex (Vienna & Ratti 1999). Oristano prov.: Oristano, sd, AK (Reichardt 1932). Sassari prov.: Capo Testa (Vienna 1980); *idem*, 20.VII.1959, RR, 1 ex (MSNM). Isola Maddalena (Vienna 1980). Isola Rossa, 200 m, 20.VI.1995, RPa, 1 ex (CRPa). Olbia (Vienna 1980); *idem*, 30.V.1953, LC, 1 ex (MSNM). Palau, loc. Punta Pollo, 4.VIII.1994, AS, 1 ex (MZUF). Santa Teresa Gallura (Vienna 1980); *idem*, 4.VIII.1959, 2 ex (MSNM). Sassari, dint., VII.1959, MSe, 2 ex (CGMü).

Unpublished records. "Sardinia", sd, 4 ex (CFB as *Saprinus aemulus* Illig.). Cagliari prov.: San Nicolò Gerrei, rio Baccanali, 370 m, 15.VII.1997, on cow dung, CM, 1 ex (CCMe). Serdiana, pond, 100–106 m, 12.V.2003, on dead gull, CM, 1 ex (CCMe). Nuoro prov.: Fonni, rio Dudulu, 19.VI.1965, 1 ex (DPPS). Orune, sd, 2 ex (CAD ex-coll. L. Demarchi). Monte Albo, Funtana 'e Deus, 800 m, 5.IX.1999, RPa, 1 ex (CRPa). San Teodoro, spiaggia [= beach] La Cinta, 3.IX.1999, on sheep dung, RPa, 2 ex (CRPa). Seui, loc. San Girolamo, rio Anus, 775–790 m, 19.VI.1991, on cow dung, CM, 2 ex (CCMe). Tertenia, Monte Rasu, 612 m, 11.VIII.2007, S/C, 2 ex (CDS). Sassari prov.: Isola Asinara, dint. Trabuccato, 18.VI.2003, MD, 1 ex (MSNC); *idem*, 10 m, 20.V.2004, in sheep dung, 1 ex (MSNC). Isola Molara, 2.VII.1987, VV, 1 ex (MZRM). Stintino, 30.V.1976, RP, 2 ex (CRP).

Chorotype. 3.01 MED (Mediterranean).

Italian distribution. Piedmont, Venetia, Tuscany, Marches, Latium, Campania, Apulia, Basilicata, Calabria, Sicily and Sardinia.

Ecology. Found on excrements and carcasses of small animals, both along coasts and in inland hilly/montane habitats.

59. *Chalcionellus amoenus* (Erichson)

Literature data. Sassari prov.: Fertilia, 16.VII.1981, in cow dung, 1 ex (Vienna 2004).

Unpublished records. Nuoro prov.: Orgosolo, Oristillai, 947 m, 4.IX.2006, in dung, DBi, 1 ex (CNBFVR).

Chorotype. 1.05 SIE (Sibero-European).

Italian distribution. Tuscany and Sardinia.

Ecology. Found on excrements and various decomposing substances.

Notes. The specimen collected at Oristillai represents the second record for this species from Sardinia.

60. *Chalcionellus decemstriatus decemstriatus* (P. Rossi)

Saprinus conjungens Payk.: Bargagli 1871: 41; Bertolini 1872–1878: 84, 1904: 48
Saprinus (*Hypocaccus*) *conjungens* Payk.: Porta 1926: 378
Hypocacculus conjungens Payk.: Luigioni 1929: 362

Literature data. "All of Italy" (Bertolini 1904; Porta 1926). "Sardinia" (Bargagli 1871; Bertolini 1872–1878; Luigioni 1929; Porta 1934; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Assemini, rio Flumini Mannu, 26.III.1989, on half-fresh cow dung, CM, 5 ex (CCMe). Capoterra, rio Santa Lucia, loc. Bau s'Arruiu de sa Pira, 1.VII.1974, CM, 1 ex (CPV). Giara di Gesturi, 19.V.1955, GMi, 4 ex (MSNM); Giara di Gesturi [= Planu sa Giara], 19.V.1955, LC, 6 ex (4 MSNM, 2 CGMü); *idem*, Funtana s'Ala de Mengiana, 14.IV.1990, RM, 1 ex (CFP); *idem*, Pauli Majori di Tuili, 570 m, 3–21.VI.1991, on fresh cow dung, CM, 2 ex (CCMe). Guasila, IV.1946, CA, 1 ex (CGM). Guspini, dint., 120 m ca, 16.V.1995, FA, ex. pl. (CFA). Nuoro prov.: Aritzo, loc. Castiau, staz. FdS, 520 m, 8.V.1983, on half-fresh cow dung, CM, 1 ex (CCMe). Catena del Marghine, Punta Palai, 1000 m, 1.VI.1972, GMi, 5 ex (MSNM). Flumendosa, sd, 3 ex (CIS). Giara di Gesturi, Pauli Majori di Genoni, 530 m, 10.V.1995, FA, 8 ex (4 CFA, 4 CPV). Macomer, stagno di Bara, 600 m, 23.V.1955, GMi, 1 ex (MSNM). Monte Coazza, sd, 1 ex (MSNTO). Ogliastra, sentiero per [= path to] Cala Goloritzè, 9.VII.1995, AS, 1 ex (MZUF). Villanova Strisaili, dint., 1000 m, 23.V.1974, VR, 15 ex (CFP). Oristano prov.: Oristano, sd, UL (Reichardt 1932); *idem*, sd, 2 ex (CCA). Sassari prov.: Illorai, dint. Fiume Tirso, Molia necropolis, 10.VI.1994, BC, 1 ex (CBC). Isola Asinara, dint. Campu Perdu, 2003 (MSNC).

Unpublished records. "Sardinia", sd, [UL?], 1 ex (CUL). Cagliari prov.: Assemini, II.1898, UL, 1 ex (CAD). Pula, sd, UL, 1 ♂ (CUL). Santadi, 7.IV.1884, AD, 1 ex (CAD). Nuoro prov.: Aritzo, loc. Is Bandidos, provincial road n. 295, 1000 m, 22.V.2004, in cow dung, D/F, 2 ex (MSNC); *idem*, 23.VI.2004, in cow dung, 2 ex (MSNC). Desulo, Arcu Guddetorgiu, 1120 m, 20.V.1998, on cow dung, CM, 2 ex (CCMe). Esterzili, loc. Taccu Mauroi, 640–650 m, 25.IV.2008, in half-fresh cow dung, CM, 4 ex (CCMe). Fonni, state road n. 389, 10 km south of Arcu Correboi, 885 m, 19.V.2007, DS, 1 ex (CDS). Monti del Gennargentu, VII.1894, UL, 1 ex (CAD); *idem*, Punta Lamaide, 18.VI.1965, 1 ex (DPPS). Pratobello, dint., 850 m, 22.V.2004, in cow dung, D/F, 2 ex (MSNC). Seui, Monte Tonneri, 1000–1200 m, 6.VII.1997, on cow dung, CM, 1 ex (CCMe). Talana, 7.IV.2000, DS, 1 ex (CDS). Villagrande Strisaili, Cant. Pira 'e Onni, 14.VI.2002, DS, 1 ex (CDS). Oristano prov.: Ales, V.1937, UL, 1 ♂ (CUL). Oristano, sd, UL, 6 ex (CAD). Sassari prov.: Telti, 26.V.1976, RP, 1 ex (CRP).

Chorotype. 1.04 ASE (Asiatic-European).

Italian distribution. All regions except Aosta Valley.

Ecology. According to Yélamos (2002) it is mainly found in cow dung, both in montane habitats and at low altitudes; according to Vienna (1980) it is sometimes found also on carcasses.

Notes. In Penati and Vienna (2005, 2006a) the data referring to the specimens from Pula and Ales (CUL) are erroneously given as "Assemini, 1937, coll. Museo Genova" (see "Data collection").

61. *Hypocacculus* (*Colpellus*) *praecox* (Erichson)

Literature data. Cagliari prov.: Capoterra, foce del rio Santa Lucia, 6.VIII.1987, on decomposing ox carcass, CM, 4 ex (Penati & Vienna 2002; 2 CCMe, 2 CPV). Pabillonis, loc. Is Arenas, 3.X.1986, under stone in sandy terrain, CM, 1 ex (CCMe).

Unpublished records. Cagliari prov.: Cagliari, 12.III.1884, AD, 1 ex (CAD as *Saprinus Mocquerysi* Marseul, 1862).

Chorotype. 4.02 AFM (Afrotropical-Mediterranean) (see also Penati & Vienna 2006b).

Italian distribution. Apulia, Sicily and Sardinia.

Ecology. Psammobiotic or psammo-halobiotic species found on coastal dunes near the roots of halophilous plants or in small animal carcasses.

Notes. See comments under *Hypocacculus* (*Colpellus*) *solieri* (Marseul) in the chapter "Excluded and/or doubtful species".

62. *Hypocacculus* (*Hypocacculus*) *metallescens* (Erichson)

Saprinus metallescens Erichson 1834: 192
Saprinus metallescens Er.: Marseul 1855: 686; Gemminger & Harold 1868: 788; Bargagli 1871: 41; Bertolini 1872–1878: 84, 1904: 48; Krausse 1913: 61
Saprinus (*Hypocaccus*) *metallescens* Erich.: Porta 1926: 378
Saprinus sardeus Dahlbom: Giachino 1982: 350

Literature data. "Sardinia" (Erichson 1834; Marseul 1855; Bargagli 1871; Bertolini 1872–1878, 1904; Porta 1926; Luigioni 1929; Porta 1934; Barajon 1966; Vienna 1980; Mazur 1984; Audisio *et al*. 1995; Mazur 1997; Yélamos & Lackner 2004); *idem*, sd, GD, "2 cotypi" (Reichardt 1932); *idem*, sd, "gift or coll. Parreyss", 1 ex (Giachino 1982). Cagliari prov.: Isola di San Pietro, Carloforte, 20.V.1901, AD, 2 ex (CGB). Monti dei Sette Fratelli, Monte Cresia, 700 m, 11.VIII.1988, on half-fresh cow dung, CM, 1 ex (CCMe). Nuoro prov.: Sorgono, dint. (Krausse 1913). Oristano prov.: Oristano, sd, UL, 1 ex (CAD). Sassari prov.: Badesi, foce del Coghinas, 30.VI.1995, RPa, 1 ex (CPV). Ozieri, sd, DA, 10 ex (CAD).

Unpublished records. "Sardinia", sd, 4 ex (CFB as *Saprinus metallescens* Er.); *idem*, sd, UL, 1 ex (CAD).

Chorotype. To be defined: the species is known from the W-Palearctic and Afrotropical regions (Yélamos 2002; Penati & Vienna 2006b), different from what is stated by Mazur (2004).

Italian distribution. Liguria, Tuscany, Latium, Campania, Apulia, Calabria, Sicily and Sardinia.

Ecology. Occurs on small animal carcasses and in excrements, sometimes also in other decomposing matter; according to Vienna (1980) [translated from the Italian original] "*it often frequents the sands of coastal dunes, where it can be found close to the roots of psammophilous Graminaceae*".

63. *Hypocacculus* (*Hypocacculus*) *spretulus* (Erichson)

Saprinus spretulus Er.: Bertolini 1904: 48
Saprinus (*Hypocaccus*) *spretulus* Er.: Porta 1926: 378

Literature data. "Sardinia" (Bertolini 1904; Porta 1926; Luigioni 1929; Porta 1934; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Giara di Gesturi [=Planu sa Giara], 19.V.1955, LC, 1 ex (CGMü). Nuoro prov.: Nurri, loc. Padenti [= Padonti-Nurri], 14.VIII.1941, ES, 1 ex (CGMü).

Chorotype. 4.03 INM (Indian-Mediterranean).

Italian distribution. Tuscany, Latium, Calabria, Sicily and Sardinia.

Ecology. Occurs on fresh excrements and on small carcasses, both in montane habitats and on coastal dunes.

64. *Hypocacculus* (*Nessus*) *ascendens* Reichardt

Literature data. "Sardinia" (Yélamos 2002; Mazur 2004). Cagliari prov.: Villasimius, 7.V.1969, PA, 1 ex (Secq & Vienna 1999). Oristano prov.: Oristano, 30.IV.1985, SR, 12 ex (Secq & Vienna 1999).

Chorotype. 4.02 AFM (Afrotropical-Mediterranean).

Italian distribution. Sardinia.

Ecology. No data exist on the Sardinian specimens; in Spain it is found both on coastal dunes and on carcasses in arid inland areas.

Notes. Due to their small size and the inconspicuousness of their diagnostic features, *Hypocacculus ascendens*, *H*. (*Nessus*) *ferreri* Yélamos and *H*. (*Nessus*) *rubripes* (Erichson) form a group of species of difficult identification, and it is highly probable that in the past all specimens were ascribed to the most anciently described taxon, *H*. *rubripes* (see notes under the following species). A careful and thorough revision of the specimens from the various collections and extensive field campaigns are necessary for a better definition of the distribution of these species.

65. *Hypocacculus* (*Nessus*) *ferreri* Yélamos

Literature data. Sassari prov.: Lago di Baratz [= Lago Balata (sic!)], 12.VII.1973, LB, 1 ex (Vienna & Ratti 1999).

Unpublished records. Oristano prov.: Oristano, sd, UL, 1 ♂ (CUL).

Chorotype. 3.02 WME (W-Mediterranean) (see also Yélamos 2002, not Mazur 2004).

Italian distribution. Sardinia.

Ecology. Psammophilous species occurring in the same habitats as the other *Nessus* species.

Notes. In Penati and Vienna (2005, 2006a) the specimen from Oristano (CUL) is ascribed to *Hypocacculus* (*Nessus*) *rubripes* and its label data are erroneously given as "Assemini, 1940, coll. Museo Genova" (see "Data collection"). Because it is a male, the dissection of the aedeagus allowed me to identify it as *H*. *ferreri*. This is the second record for this species from the island, and a confirmation of what stated in the notes under *H*. *ascendens*.

66. *Hypocacculus* (*Nessus*) *puncticollis* (Küster)

Saprinus puncticollis: Küster 1849: [30]
Saprinus puncticollis Küst.: Marseul 1855: 755, 1857: 501; Gemminger & Harold 1868: 790; Stein & Weise 1877: 65; Heyden *et al*. 1883: 92; Bertolini 1904: 48
Saprinus Kusteri = *puncticollis* Küst.: Marseul 1863a: 715
Saprinus Kusteri Mars.: Marseul 1863b: 97; Bargagli 1871: 41; Marseul 1882–1889: 180
Saprinus Küsteri Müll.: Bertolini 1872–1878: 84
Saprinus (*Hypocaccus*) *curtus* Rosenh.: Porta 1926: 378
Hypocacculus curtus Rosh.: Luigioni 1929: 362; Barajon 1966
Hypocacculus (*Nessus*) *curtus* (Rosh.): Reichardt 1932: 122; Porta 1934: 153

Literature data. "Sardinia" (Marseul 1857, 1863a, 1863b; Bargagli 1871; Bertolini 1872–1878, Stein & Weise 1877; Marseul 1882–1889; Bertolini 1904; Porta 1926; Luigioni 1929; Porta 1934; Barajon 1966; Mazur 1984; Audisio *et al*. 1995; Mazur 1997, 2004; Yélamos & Lackner 2004). Cagliari prov.: Assemini, 1891, UL (Reichardt 1932; Vienna 1980); *idem*, sd, UL, 1 ex (CAD). Cagliari (Küster 1849; Marseul 1855;

Vienna 1980); *idem*, loc. Poetto, III.1940, UL, 1 ♂ and 1 ♀ (CUL); *idem*, Saline di Stato, 10.V.1989, sieving at the base of Chenopodiaceae, CM, 5 ex (3 CCMe, 2 CPV); *idem*, stagno di Molentargius, 31.I.1979, on remains of gull, CM, 2 ex (CCMe, CPV); *idem*, 29.V.1988, sieving at the base of Chenopodiaceae, CM, 1 ex (CCMe); *idem*, stagno Santa Gilla, 28.III.1983, on dead rat, CM, 2 ex (CCMe). Quartu Sant'Elena, sd, UL, 2 ex (CGB). Nuoro prov.: Macomer, stagno di Bara, 29.V.1988, CM, 1 ex (CFP).

Unpublished records. Cagliari prov.: Assemini, rio Flumini Mannu, 21.VI.2007, at black light, S/C/L, 1 ex (CDS). Serdiana, 8.VI.2003, LF, 14 ex (CFP); *idem*, 2.VI.2006, LF, 2 ex (MSNG); *idem*, pond, 2.VII.1995, roaming along the bank, CM, 1 ex (CCMe).

Chorotype. 3.01 MED (Mediterranean).

Italian distribution. Tuscany, Sicily and Sardinia.

Ecology. Occurs under detritus, in sands on sea and pond shores close to the roots of various plants, and on small carcasses.

Notes. In Penati and Vienna (2005, 2006a) the data referring to the specimens from Poetto (CUL) are erroneously indicated as "Quartu Sant'Elena, coll. Museo Genova" (see "Data collection").

67. *Hypocacculus* (*Nessus*) *rubripes* (Erichson)

Saprinus rufipes Payk.: Bargagli 1871: 41; Bertolini 1872–1878: 84, 1904: 48
Saprinus (*Hypocaccus*) *rufipes* Payk.: Porta 1926: 378
Hypocacculus (*Nessus*) *rubripes* (Er.) subsp. *corsicus* Mars.: Reichardt 1932: 128; Porta 1934: 153
Hypocacculus rubripes Er.: Horion 1949: 339; Barajon 1966

Literature data. "All of Italy" (Bertolini 1904; Porta 1926). "Sardinia" (Bargagli 1871; Bertolini 1872–1878; Luigioni 1929; Porta 1934; Horion 1949; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004); *idem*, GG (Reichardt 1932). Cagliari prov.: Cagliari, sd, UL, 1 ex (CGM); *idem*, dint., sd, 1 ex (CDM). Capoterra, foce del rio Santa Lucia, 6.VIII.1987, on decomposing ox carcass, CM, 1 ex (CCMe). Castiadas, Costa Rey, 12.V.1995, FA, 1 ex (CFA). Isola di San Pietro, La Caletta, 16.V.1971, LB, 1 ex (CPV). Isola di Sant'Antioco, Cala Lunga, 16.IV.1987, at base of *Ammophila littoralis*, CM, 1 ex (CCMe). Muravera, foce del rio sa Picocca, VIII.1976, at the base of psammophilous plants, CM, 4 ex (CCMe); *idem*, stagno di Colostrai, beach, 20.X.1977 (MSNM). Quartu Sant'Elena [= Zuarto (sic!)], XI.1898, UL (Reichardt 1932). Quirra, foce del rio Flumini Durci (CCMe). San Priamo, rio sa Picocca, 7.IX.1976, on remains of gallinacean, CM, 3 ex (CCMe); *idem*, rio sa Picocca, ponte [= bridge] Monte Acuto, 16.VII.1988, in residual pools with rotting algae, CM, 1 ex (CCMe). Torre dei Corsari, 17.V.1995, FA, 2 ex (CPV). Uta, rio Cixerri, 24.VIII.1988, around residual pools with fresh algae, CM, 1 ex (CCMe). Villaputzu, Porto Corallo, foce del Flumendosa, 25.X.1977, RPi, 1 ex (CFP). Nuoro prov.: Santa Lucia, beach, 8.VI.1996, LS, 1 ex (CLS). Oristano prov.: Oristano (Reichardt 1932); *idem*, sd, UL, 20 ex (CGB); *idem*, AD, 3 ex (CGB). Sassari prov.: Alghero, beach, 23.V.1974, MF, 1 ex (CMF); *idem*, Porto Ferro, 4.VII.1999, PC/GS, 1 ex (CPC). Berchidda, Lago Coghinas, 13.X.1979 (MSNM). Golfo Aranci, V.1910, AD, 7 ex (CGB). Sassari, loc. Platamona, 20–21.V.1974, PV, 2 ex (CPV, CCMe); *idem*, stagno di Platamona, 19.V.1974, VR, 8 ex (CFP).

Unpublished records. "Sardinia", sd, UL, 4 ex (2 MSNG, 1 CAD, 1 CGMü). Cagliari prov.: Cagliari, 2.III.1883, AD, 1 ex (CAD). Flumini, V.1895, UL, 1 ex (CAD). Nuoro prov.: Capo Comino, 3–5.VII.2000, on beach, PC/GS, 4 ex (CPC); *idem*, VII.2001, PC, 13 ex (9 CPC, 4 CPV); *idem*, 4–11.VII.2004, PC/GS, 1 ex (CPC). Oristano prov.: Oristano, XII.1898, 1 ex (CAD). Sassari prov.: Alghero, Porto Ferro, 17.VI.1966, 1 ♂ and 1 ♀ (DPPS). Isola Asinara, IX.1903, SF, 1 ex (MSNG); *idem*, Cala d'Arena, 1.VII.1987, VV, 3 ♂♂ and 6 ♀♀ (MZRM); *idem*, 2003–2004 [various dates], M/S, pitfall trap, ex. pl. (ISE-SS); *idem*, Cala Sabina, 2003–2004 [various dates], M/S, pitfall trap, ex. pl. (ISE-SS); *idem*, Cala Sant'Andrea, 2003–2004 [various dates], M/S, pitfall trap, ex. pl. (ISE-SS). Porto Torres, Marina di Sorso, 3.VII.2004, DBi, 1 ex (CDBi). Sassari, loc. Platamona, beach, 17.V.1974, MF, 2 ex (CMF).

Chorotype. Subcosmopolitan (see also Mazur 2004).

Italian distribution. Piedmont, Trentino-Alto Adige, Venetia, Friuli-Venezia Giulia, Liguria, Emilia-Romagna, Tuscany, Marches, Latium, Campania, Abruzzi, Molise, Apulia, Basilicata, Calabria, Sicily and Sardinia.

Ecology. Same as previous species.

Notes. See notes under *Hypocacculus ascendens*.

68. *Hypocaccus* (*Hypocaccus*) *brasiliensis* (Paykull)

Saprinus apricarius Er.: Bargagli 1871: 42; Bertolini 1904: 48
Saprinus (*Hypocaccus*) *apricarius* Er.: Porta 1926: 379
Hypocaccus apricarius Er.: Luigioni 1929: 362; Strassen 1954: 269; Barajon 1966

Literature data. "All of Italy" (Bertolini 1904; Porta 1926). "Sardinia" (Bargagli 1871; Luigioni 1929; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Cagliari, 21.V.1955, LC, 4 ex (3 MSNM, 1 CGMü); *idem*, loc. Poetto, 21.V.1955, GMi, 1 ex (MSNM); *idem*, Monte Claro (CCMe). Castiadas, Pranu Monte Nai, 16.V.1982, on sheep carcass, CM, 1 ex (CCMe). Chia, 1 ex (CPE). Geremeas, rio Geremeas, 25.V.1975, among grass on sandy banks, CM, 1 ex (CCMe). Giorgino, 1973 (CRPe); *idem*, 1979 (MSNM); *idem*, loc. La Plaja, 20.VI.1975, in flight, CM, 1 ex (CCMe); *idem*, 26.VI.1975, at the base of psammophilous plants, CM, 2 ex (CCMe); *idem*, 24.VI.1977, CM, 1 ex (CCMe); *idem*, 25.VI.1978, on dead gull, CM, 1 ex (CCMe). Gonnesa, loc. Fontanamare, beach, 24.IV.1985, under stone, CM, 1 ex (CCMe); *idem*, 4.IV.1991, on dead gull, CM, 2 ex (CCMe). Muravera, foce del rio sa Picocca, VIII.1978, at the base of psammophilous plants, CM, 2 ex (CCMe); *idem*, loc. San Giovanni, beach, 23.IV.1986, at the base of *Eryngium maritimum*, CM, 1 ex (CCMe). Quartu Sant'Elena, 26.V.1972, GB, 4 ex (MSNG). San Priamo, rio sa Picocca, 7.IV.1976, among grass on sandy banks, CM, 2 ex (CCMe). Solanas, 19.VI.2000 (CPV). Villaputzu, foce del Flumendosa, 4.VII.1989, under dry algae in freshwater backdune pool, CM, 1 ex (CCMe). Nuoro prov.: Capo Comino, 18–30.VII.1987, ER, 2 ex (Vienna & Ratti 1999). Perdasdefogu, X.1970, 1 ex (CPV). Oristano prov.: Arborea, spiaggia [= beach] Sassu, 29.IV.1982, on sheep dung, CM, 1 ex (CCMe); *idem*, stagno di s'Ena Arrubia, 29.IV.1982, on horse dung, CM, 1 ex (CCMe). Oristano, 1914, AK, 1 ex (CPV); *idem*, foce del Tirso, 27.III.1974, CM, 1 ex (CPV); *idem*, 30.VI.1974, BB, 1 ex (CFP); *idem*, 22.VI.1975, at the base of psammophilous plants, CM, 1 ex (CCMe). Putzu Idu, 22.V.1974, GBa, 2 ex (MSNG). Sassari prov.: Alghero, south of city towards Monte Mannu, 22.V.1974, PV, 1 ex (CPV). La Nurra, foresta demaniale di [= region-owned forest of] Porto Conte, 6.VII.1999, PC, 1 ex (CPC). Sassari, loc. Platamona, beach, 19.V.1974, IB, 1 ex (CPV); *idem*, V.1974, VR, 14 ex (PIME); *idem*, 20.V.1974, PV, 5 ex (Vienna & Ratti 1999; 1 MSNV, 4 MSNTO ex-coll. P. Vienna); *idem*, stagno di Platamona, 19.V.1974, VR, 34 ex (CFP). Between Alghero and Fertilia, 10.IV.1952, on roadside under stone (Strassen 1954).

Unpublished records. "Sardinia", sd, 1–4 ex (CFB as *Saprinus apricarius* Er.); *idem*, sd, 1–4 ex (CFB as *Saprinus apricarius* Er. "varietates"); *idem*, sd, FB, 1 ex (CAD); *idem*, 1 ex (MSNG ex-coll. L. Fea). Cagliari prov.: Arbus, Piscinas di Ingortosus, 5.III.2001, RL, 1 ex (CPM). Buggerru, 15 km NW of Iglesias, 3.V.1976, SZ, 37 ex (CGRa). Nuoro prov.: Capo Comino, VII.2001, on beach, PC, 1 ex (CPC). Gairo, Marina di Gairo, 17.VI.1983, CT, 2 ex (CGRa). Oristano prov.: Oristano, 20.V.1976, SR, 2 ex (CGRa). Sassari prov.: Golfo Aranci, Lido Pittulongu, 22.V.1976, under dead gull, RP, 15 ex (CRP). Sassari, loc. Platamona, beach, 17.V.1974, MF, 22 ex (CMF). Stintino, Capo Falcone, 29.III.1993, PL, 1 ♀ (CCMe).

Chorotype. Cosmopolitan.

Italian distribution. Trentino-Alto Adige (?), Venetia, Liguria, Emilia-Romagna, Tuscany, Marches, Latium, Campania, Abruzzi, Apulia, Basilicata, Calabria, Sicily and Sardinia.

Ecology. Found in sandy areas, especially coastal ones, under excrements, carcasses and other decomposing substances.

69. *Hypocaccus* (*Hypocaccus*) *crassipes* (Erichson)

Saprinus crassipes E.: Bertolini 1904: 48
Saprinus (*Hypocaccus*) *crassipes* Erich.: Porta 1926: 379
Pachylopus crassipes Er.: Luigioni 1929: 362; Strassen 1954: 269; Barajon 1966

Literature data. "Sardinia" (Bertolini 1904; Porta 1926; Luigioni 1929; Barajon 1966; Audisio *et al*. 1995). Nuoro prov.: Sadali, fiume Flumendosa, 10.V.1949, MBj, 1 ex (CFP). Oristano prov.: Oristano, XII.1898, 1 ex (CAD). San Giovanni di Sinis, loc. Tharros, 29.X.1977, RPi, ex. pl. (3 CFP, MSNM); *idem*, 20.X.1979 (MSNM). Sassari prov.: Olbia, 20–22.IV.1952, 1 ex, found dead on beach (Strassen 1954). Sassari, loc. Platamona, 19.V.1974, IB, 1 ex (CPV; Vienna 1980); *idem*, stagno di Platamona, 19.V.1974, VR, 1 ex (CFP).

Chorotype. 1.12 EUM (Europeo-Mediterranean).

Italian distribution. Piedmont, Trentino-Alto Adige, Liguria, Emilia-Romagna, Tuscany, Latium, Abruzzi, Apulia, Sicily and Sardinia.

Ecology. Shows obvious morphological adaptations to sandy habitats and lives mainly on coastal dunes among the roots of halophilous plants.

Notes. See *Saprinus politus*.

70. *Hypocaccus* (*Hypocaccus*) *pelleti* (Marseul)

Saprinus Pelleti Mars.: Bertolini 1904: 48; Krausse 1911: 174
Saprinus (*Hypocaccus*) *Pelleti* Mars.: Winkler 1925: 477; Porta 1926: 379

Literature data. "Sardinia" (Bertolini 1904; Winkler 1925; Porta 1926; Audisio *et al*. 1995; Mazur 1984, 1997; Yélamos 2002; Mazur 2004; Yélamos & Lackner 2004). Cagliari prov.: Cagliari (Luigioni 1929; Barajon 1966; Vienna 1980); *idem*, sd, UL, 1 ex (CAD); *idem*, 7.III.1884, AD, 1 ex (CAD). Decimomannu, rio Sesi, 12.VII.1989, on sheep carcass, CM, 1 ex (CCMe). Quartu Sant'Elena, sd, UL, 7 ex (CGB). San Priamo, rio sa Picocca, ponte [= bridge] Monte Acuto, 5.VI.1987, among half-dried algae of residual pools, CM, 1 ex (CCMe); *idem*, 16.VII.1988, among grass on sandy shores, CM, 3 ex (1 CCMe, 2 CPV). Nuoro prov.: Gavoi, fiume Taloro, 22.V.1940, MBj, 1 ex (CFP). Sadali, 10.V.1949, MBj, 1 ex (CFP). Oristano prov.: Asuni (Krausse 1911; Luigioni 1929; Barajon 1966; Vienna 1980); *idem*, sd, AK, 1 ex (CAD). Oristano (Luigioni 1929; Barajon 1966; Vienna 1980); *idem*, sd, UL, 1 ex (CAD). Sassari prov.: Berchidda, Lago Coghinas, 13.X.1979, RPi, ex. pl. (MSNM, CFP). Oschiri, Lago Coghinas, presso [= near] centrale Pedredu, 165 m, 28.V.1995, FA, 1 ex (CPV).

Unpublished records. Sassari prov.: Oschiri, Lago Coghinas, 8.VII.1997, MBa, 1 ex (CPM).

Chorotype. 3.02 WME (W-Mediterranean).

Italian distribution. Latium and Sardinia.

Ecology. Found under carcasses in sandy habitats.

71. *Hypocaccus* (*Hypocaccus*) *rugifrons rugifrons* (Paykull)

Saprinus rugifrons Payk.: Bertolini 1904: 48
Saprinus (*Hypocaccus*) *rugifrons* Payk.: Porta 1926: 379

Literature data. "All of Italy" (Bertolini 1904; Porta 1926). Sassari prov.: Alghero, Porto Ferro, VII.1973, LB, 1 ex (Vienna & Ratti 1999; Penati & Vienna 2002).

Unpublished records. Cagliari prov.: Assemini, 1898, 1 ex (CAD as *Saprinus metallicus*).

Chorotype. 1.05 SIE (Sibero-European).

Italian distribution. All regions except Aosta Valley, Umbria and Molise.

Ecology. Quite similar to that of *H. brasiliensis*, from which it differs however by a greater abundance in freshwater sandy habitats.

72. *Hypocaccus* (*Baeckmanniolus*) *dimidiatus dimidiatus* (Illiger)

Saprinus dimidiatus Illig.: Bargagli 1871: 42; Bertolini 1904: 49
Saprinus maritimus: Champion 1911: 222
Saprinus (*Hypocaccus*) *dimidiatus* Illig.: Porta 1926: 380
Pachylopus dimidiatus Ill.: Luigioni 1929: 363; Barajon 1966
Baeckmanniolus dimidiatus (Illig.): Vienna 1971: 281

Literature data. "Sardinia" (Bargagli 1871; Bertolini 1904; Porta 1926; Luigioni 1929; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004). "Sardegna sud-orientale" [= south-east Sardinia], VI.1971, EB, 2 ex (Vienna & Ratti 1999). Cagliari prov.: Cagliari, VI.1937, 1 ex (Vienna 1971); *idem*, 21.V.1955, LC, 10 ex (7 MSNM, 3 CGMü); *idem*, loc. Poetto, 21.V.1955, GMi, 3 ex (MSNM). Capoterra, foce del rio Santa Lucia, 4.VI.1981, among grass on sandy banks, CM, 1 ex (CCMe). Castiadas, Costa Rey, 6.VII.1980, on dog carcass, CM, 3 ex (CCMe); *idem*, 26.V.1988, GBe, 7 ex (CRPa); *idem*, VII.1988, VB, 1 ex (CPC); *idem*, 26.VII.1990, DS, 1 ex (CEM); *idem*, stagno Salina, 2–15.VIII.1980, on dead fish, CM, 4 ex (CCMe). Domus de Maria, loc. Chia, 1 ex (CPE); *idem*, Porto di Piscinnì, 3.IV.1986, at the base of *Eryngium maritimum*, CM, 1 ex (CCMe); *idem*, stagno s'Acqua Dulci, 9.IV.1991, under shelter on beach, CM, 1 ex (CCMe). Giorgino, 25.V.1973, at the base of psammophilous plants, CM, 3 ex (CCMe); *idem*, 10.VI.1973, with bait, CM, 2 ex (MSNTO ex-coll. P. Vienna); *idem*, 23.VI.1978, at the base of psammophilous plants, CM, 1 ex (CCMe); *idem*, 17.X.1979 (MSNM); *idem*, loc. La Plaja, 26.VI.1975, attracted to white sheet, CM, 3 ex (CCMe); *idem*, 24.VI.1977, on dead rat, CM, 2 ex (CCMe). Gonnesa, loc. Fontanamare, 4.IV.1991, on dead gull, CM, 25 ex (CCMe); *idem*, 15.V.1995, FA, 2 ex (CFA). Iglesias, dint. Masua, 12.V.1992, C/N, 1 ex (MZUF). Isola di San Pietro, Cala Spalmatore, 12.VI.1989, NS, 3 ex (MSNG); *idem*, La Caletta, 17.V.1971, LB, 8 ex (Vienna & Ratti 1999; 5 MSNV, 3 CPV). Isola di Sant'Antioco, Sant'Antioco, 17.V.1971, LB, 1 ex (CPV). Muravera, foce del rio sa Picocca (CCMe). Nebida, 9.IV.1912, AD, 18 ex (CAD). Sant'Antonio di Santadi, 29.IV.1990, CM, 25 ex (CCMe). Solanas, 19.VI.2000 (CPV). Villaputzu, Porto Corallo, foce del Flumendosa, 25.X.1977 (MSNM); *idem*, 4.VII.1989, under fresh algae in backdune freshwater pool, CM, 5 ex (CCMe). Nuoro prov.: Cala Gonone, towards north, loc. Cala Cartoe, 1981 (CRPe). Capo Comino, 18–30.VII.1987, ER, 20 ex (Vienna & Ratti 1999). Santa Lucia, beach, 8.VI.1996, LS, 21 ex (CLS). Siniscola, VII.1974, GF, 2 ex (MSNG). Supramonte, 12.VIII.1994, AS, 6 ex (MZUF). Oristano prov.: Cabras, dint., 24.IX.1972, NS, 1 ex (MSNG). Oristano, foce del Tirso, 26.V.1991, at base of *Eryngium maritimum*, CM, 1 ex (CCMe). San Giovanni di Sinis, 7.V.1986, DB, 1 ex (CDB). Su Pallosu, beach, 30.X.1977 (MSNM). Tharros, 19.III.2001, ADg, 1 ex (CFP). Sassari prov.: Alghero, VII.1973, LB, 2 ex (Vienna & Ratti 1999); *idem*, 22.V.1994, DS, 1 ex (CEM); *idem*, south of city towards Monte Mannu, 29.V.1974, PV, 2 ex (CPV); *idem*, dint., 14.V.1971, LB, 1 ex (CPV); *idem*, Le Bombarde, VII.1973, LB, 2 ex (Vienna & Ratti 1999); *idem*, Porto Ferro, VII.1973, LB, 4 ex (Vienna & Ratti 1999); *idem*, 23.VII.1973, 1 ex (Vienna & Ratti 1999); *idem*, port beach, 23.V.1974, MF, 1 ex (CMF). Golfo Aranci, sd, AD, 1 ex (CAD); *idem*, 13–19.VI.1910, "sandy beaches", GCh, ex pl. (Champion 1911); *idem*, Golfo di Marinella, 13–19.VI.1910, "sandy beaches", GCh, ex pl. (Champion 1911). Isola Rossa, beach, 6.IX.1993, CV, 3 ex (CFP). Isola Santa Maria, Cala Santa Maria, 26.IX.1985, reed bed, RP, 1 ex (MSNG). Isola Tavolara, Spalmatore di Terra, 8.IV.1986, RP, 4 ex (MSNG); *idem*, unspecified locality, 8.IV.1986, MB, 1 ex (MSNG). La Nurra, Torre del Porticciolo, 28.VI–1.VII.1999, PC/GS, 1 ex (CPC). Santa Teresa Gallura, baia [= bay] Santa Reparata, 3.V.1984, at base of *Eryngium maritimum*, CM, 1 ex (CCMe). Sassari, sd, UL, 1 ex (CUL); *idem*, loc. Platamona, beach, V.1974, VR, 16 ex (PIME); *idem*, stagno di Platamona, 19.V.1974, VR, 21 ex (CFP).

Unpublished records. "Sardinia", sd, 4 ex (CFB as *Saprinus dimidiatus* Ill.). Cagliari prov.: Arbus, Piscinas di Ingortosus, 5.III.2001, RL, 20 ex (CPM); *idem*, 26.III.2006, at sight, DW, 1 ex (CNBFVR). Buggerru, 15 km NW of Iglesias, 3.V.1976, SZ, 25 ex (CGRa). Gonnesa, loc. Fontanamare, IV.1989, DS, 1 ex (CDS). Isola di San Pietro, Punta Nera, 20.V.1971, LB, 1 ex (CPV). Isola di Sant'Antioco, loc. Is Pruinis, beach, 2.VIII.1998, on cow dung, CM, 2 ex (CCMe). Nuoro prov.: Aritzo, loc. su Pranu, 26.VIII.1967, 1 ex (DPPS). Bosa, Bosa Marina, 18.VI.1998, TL, 19 ex (CPM); *idem*, 5.VII.2002, PG, 3 ex (MSNG). Gairo, Marina di Gairo, 10–17.V.1980, AT, 1 ex (CGRa). Orosei, 15.VIII.1970, 1 ex (DPPS). Siniscola, Capo Comino, 30.VII.1968, 1 ex (DPPS); *idem*, beach, 3–5.VII.2000, PC/GS, 3 ex (CPC); *idem*, 7–10.VII.2000, PC/GS, 8 ex (CPC); *idem*, 12.VII.2000, PC/GS, 2 ex (CPC); *idem*, VII.2001, PC, 3 ex (CPC); *idem*, beach to the north, 16.VI.2003, GL (MSNG); *idem*, beach, 14–19.VI.2007, at sight, PC, 3 ex (CPC); *idem*, 20–29.VI.2007, PC, 1 ex (CPC). Oristano prov.: San Giovanni di Sinis, 1.VII.2002, PG, 2 ex (MSNG). Sassari prov.: Alghero, 16.IV.1902, AD, 1 ex (CAD); *idem*, Porto Ferro, 17.VI.1966, 1 ex (DPPS); *idem*, 10.VI.1971, 1 ex (DPPS). Golfo Aranci, VII.1910, AD, 1 ex (CAD); *idem*, Lido Pittulongu, 22.V.1976, under dead gull, RP, 28 ex (CRP). Isola Asinara, Cala Arena, 2003–2004 [various dates], M/S, pitfall trap, ex. pl. (ISE-SS); *idem*, Cala Sabina, 2004 [various dates], M/S, pitfall trap, ex. pl. (ISE-SS); *idem*, Cala Sant'Andrea, 2003–2004 [various dates], M/S, pitfall trap, ex. pl. (ISE-SS). Porto Torres, 28.VIII.1956, 1 ex (DPPS). Sassari, loc. Platamona, beach, 17.V.1974, MF, 2 ex (CMF). Stintino, Cala Scoglietti, 18.VIII.2004, DS, 1 ex (CDS).

Chorotype. 3.01 MED (Mediterranean).

Italian distribution. Piedmont, Venetia, Friuli-Venezia Giulia, Liguria, Emilia-Romagna, Tuscany, Marches, Latium, Campania, Abruzzi, Apulia, Basilicata, Calabria, Sicily and Sardinia.

Ecology. A halophilous psammobiont associated with sandy coastal habitats, where it lives on carcasses, in excrements and under stranded vegetable matter; in late autumn it can be found by sieving sand at the base of halophilous plants.

Notes. In Penati and Vienna (2005, 2006a) the data referring to the specimen from Sassari (CUL) are erroneously given as "Alghero, 1940, coll. Museo Genova" (see "Data collection").

73. *Exaesiopus grossipes grossipes* (Marseul)

Pachylopus grossipes Er.: Luigioni 1929: 363; Barajon 1966

Literature data. "Sardinia" (Luigioni 1929; Barajon 1966; Audisio *et al*. 1995; Yélamos & Lackner 2004). Sassari prov.: Sassari, loc. Platamona (Vienna 1980).

Chorotype. 2.04 SEU (S-European).

Italian distribution. Piedmont, Lombardy, Trentino-Alto Adige, Venetia, Friuli-Venezia Giulia, Emilia-Romagna, Sicily and Sardinia.

Ecology. Sabulicolous species occurring on marine beaches and, more rarely, along river banks.

Notes. I was unable to retrace the specimen (or specimens?) from Platamona, personally examined by Vienna (1980), in any of the collections; this remains the only known Sardinian locality for the species.

74. *Xenonychus tridens* (Jacquelin du Val)

Literature data. "Sardinia" (Bertolini 1904; Porta 1926; Luigioni 1929; Barajon 1966; Audisio *et al*. 1995; Yélamos & Lackner 2004). Cagliari prov.: Cagliari, loc. Poetto (Vienna 1980); *idem*, 18.IV.1974, CM, 1 ex (CPV); *idem*, 17.V.1979, at the base of psammophilous plants, CM, 1 ex (CCMe). Domus de Maria, stagno s'Acqua Dulci, 8.IV.1987, under stranded stone in rear part of beach, CM, 1 ex (CCMe). Giorgino, VI.1899, UL, 1 ex (CAD); *idem*, Bagni Giorgino (Vienna 1980); *idem*, 1.X.1973, at the base of psammophilous plants,

CM 2 ex (CCMe, CPV). Muravera, stagno di Colostrai, beach, 20.X.1977 (MSNM). Sassari prov.: Alghero, VII.1973, LB, 1 ex (Vienna & Ratti 1999).

Unpublished records. Cagliari prov.: Isola di Sant'Antioco, loc. Is Pruinis, beach, 2.VIII.1998, on cow dung, CM, 1 ex (CCMe). Torre Salinas, 28.X.1977, HP, 1 ex (MSNG).

Chorotype. 5.04 SAS (Saharo-Sindian).

Italian distribution. Tuscany, Latium, Campania, Sicily and Sardinia.

Ecology. Psammo-halobiotic species, found on coastal dunes at the base of halophilous plants.

Excluded and/or doubtful species

Onthophilinae

Onthophilus punctatus punctatus (O.F. Müller)

Onthophilus sulcatus Fabr.: Bargagli 1871: 42; Bertolini 1872–1878: 85, 1904: 49; Porta 1926: 381

Literature data. "All of Italy" (Porta 1926). "Sardinia" (Bargagli 1871; Bertolini 1872–1878, 1904; Yélamos & Lackner 2004).

Notes. Apart from the highly generic above citations, the presence of this species in Sardinia is documented neither in the literature nor in any of the examined collections. All works subsequent to Luigioni (1929) have (*cf.* Tab. 1), correctly in my opinion, excluded it from the Sardinian fauna; the only exception is the record by Yélamos and Lackner (2004), the source of which is unknown.

Onthophilus striatus striatus (Forster)

Literature data. "All of Italy" (Bertolini 1904; Porta 1926). "Sardinia" (Yélamos & Lackner 2004).

Notes. See notes under *O. punctatus punctatus*.

Tribalinae

Tribalus (*Tribalus*) *scaphidiformis* (Illiger, 1807)

Tribalus scaphidiiformis [sic!] Illig.: Porta 1926: 372

Literature data. "Sardinia" (Bargagli 1871; Bertolini 1872–1878, 1904; Porta 1926; Luigioni 1929; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004).

Unpublished records. "Sardinia", sd, FB, 1 ex (CUL).

Notes. A W-Mediterranean species, first cited by Bargagli after notification by Baudi (Bargagli 1871) and since considered part of the Sardinian fauna (Tab. 1), although with doubt by Penati and Vienna (2002). These authors subsequently confirmed its presence based on a specimen found in the Lostia di Santa Sofia collection (CUL), which was thought to have been collected at San Vito (Cagliari) in 1937 (Penati & Vienna 2005, 2006a). However, a further examination of this collection revealed that the data were wrong (for the causes of this error see "Data collection"): indeed, the original label reads "Sardegna / Baudi" without a date, so the specimen was probably donated (and maybe also collected) by Baudi to Lostia. Besides, the contact between the two is confirmed by the note "*(dato uno a Lostia)*" [= "one given to Lostia"] written next to "*Platysoma frontale* Payk. var. *delatum* Gené Sard." in the handwritten catalogue of Baudi's collection; curiously, no specimens of this species are present in the Lostia collection (see *Eurosoma minor*), but it is unlikely that the

note refers to *Tribalus scaphidiformis* (which is correctly identified), as the two taxa can absolutely not be confused with one another.

In any case, the absence of Sardinian specimens of *T. scaphidiformis* in the Baudi di Selve collection, as well as in all the other examined collections, together with the uncertainty of the collection data of the only specimen known to me and its absence in nearby Corsica (see for example Yélamos & Lackner 2004), induce me to exclude, at least for the time being, this species from the Sardinian histerid fauna.

Histerinae

Exosternini

Phelister haemorrhous Marseul

Phelister haemorrhous Fairm.: Bargagli 1871: 41
Hister (*Phelister*) *haemorrhous* Mars.: Luigioni 1929: 1017
Hister haemorrhous: Barajon 1966

Literature data. "Sardinia" (Baudi di Selve 1864; Schmidt 1885; Heyden *et al*. 1891 "introdotta" [= "introduced"]; Bertolini 1904; Porta 1926; Barajon 1966; Mazur 1984 and 1997 "*introduced to Sardinia*", 2004).

Notes. The presence of this species in Sardinia has always been subject to discussion, as explained in detail by Vienna (1980: 353). It was first recorded from the island by Baudi di Selve (1864) in a note, with these exact words: "Phelister haemorrhous *Mars. in Sardinia a D. Ghiliani et a me ipso as Quercus suberis corticibus a Formicis invasis haud raro lectus*, *as nomine* Paromali fulvicornis *Payk. jampridem Entomologis a me missus*" [= *Phelister haemorrhous* Mars. not rarely collected by Mr. Ghiliani and myself in Sardinia under barks of *Quercus suber* invaded by ants, for a long time already sent by me to entomologists under the name *Paromalus fulvicornis* Payk.].

Such record was subsequently reported uncritically by some authors (see "Literature data") but not by Marseul (1863b, 1882–1889), describer of the species as well as main expert of the family in the second half of the nineteenth century. Later, *P. haemorrhous* was excluded from both the Palearctic Coleoptera catalogue (Winkler 1925) and the Italian catalogue (Luigioni 1929), where the species is listed amongst those of uncertain origin or doubtful determination. This choice, followed also by Vienna (1980), seems currently not accepted only by Mazur, who cites *Phelister haemorrhous* as "*introduced to Sardinia*" in his two world catalogues (Mazur 1984, 1997) and records it from "Sardinia" in the recent Palearctic catalogue (Mazur 2004).

Obviously, the "controversy" regarding the presence of this species in Sardinia has always intrigued me, given that the genus *Phelister* Marseul is endemic to Central-South America, where it is present with 98 species (Mazur 1997), a dozen of which occur also in North America (Kovarik & Caterino 2001); besides *P. haemorrhous*, two species – *P. canalis* Lewis and *P. rouzeti* (Fairmaire) – have been recorded in Europe from Spain and France, respectively (see for example Mazur 1997, 2004; Yélamos 2002).

I therefore decided to personally examine the Baudi di Selve collection, and was able to ascertain that two specimens are kept under the name *Phelister haemorrhous*, one of which lacks both head and pronotum. They both belong to an exotic species (unknown to me) of the genus *Epierus* Erichson. Both show incomplete elytral striae (the 5th and the sutural one not reaching beyond the proximal half of the elytra) and the intact specimen carries a small piliferous tubercle on the epistoma, a male sexual character of some *Epierus* spp. This finding ultimately proves that Baudi's original record was due to a misidentification, but also that no specimen of *Phelister haemorrhous* has ever been captured in Sardinia.

Furthermore, *Phelister* species are typically attracted by dung and carcasses (Kovarik & Caterino 2001); this makes it unlikely for "many specimens" to have been found under bark. Bark, on the contrary, is a typical

habitat of many *Epierus* (*cf.* ecology of *E. comptus*); nevertheless, I consider it impossible for the two specimens in Baudi's collection to have been collected in Sardinia (and therefore Baudi 1864 was not referring to these), and they are more likely exotic specimens received as a gift (or in exchange) and later confused with material of Sardinian origin.

Although I am unable to provide any indisputable evidence, I am convinced that the beetles collected by Baudi and Ghiliani were in fact *Epierus comptus*, as possibly confirmed by two Sardinian specimens collected by Vittore Ghiliani, later sold to Giacomo Doria (Poggi & Conci 1996: 53) and still preserved in the MSNG collection. Further evidence supporting this thesis is that Baudi initially identified the beetles collected in Sardinia under cork oak bark as "*Paromalus fulvicornis* Payk.", i.e. *Hister fulvicornis* Fabricius, a Neotropical species still valid and now ascribed to genus *Epierus*, of which it is type species (see Mazur 1997). This species should have been known to Baudi through Paykull's (1811) monograph, where it is described and illustrated (pl. X, fig. VI); however, having seen this illustration, I realized that it could easily represent also *Epierus comptus* – a Palearctic species that couldn't have been known to Paykull (1811) in that it was described 23 years later by Erichson (1834) – both species being characterized by complete elytral striae.

Platysomatini

***Platysoma* (*Platysoma*) *compressum* (Herbst)**

Platysoma depressum F.: Bargagli 1871: 40

Literature data. "All of Italy" (Bertolini 1904). "Sardinia" (Bargagli 1871).

Notes. Apart from the above very generic records, the presence in Sardinia of this species is documented neither in the literature (Tab. 1) nor in the examined collections, and its exclusion from the Sardinian histerid fauna is here confirmed.

Histerini

***Margarinotus* (*Ptomister*) *merdarius* (Hoffmann)**

Hister merdarius Hfm.: Bargagli 1871: 41; Bertolini 1872–1878: 83; Porta 1926: 369

Literature data. "All of Italy" (Porta 1926). "Sardinia" (Bargagli 1871; Bertolini 1872–1878). Oristano prov.: Ozieri, VIII.1931, 1 ex (CGB; Penati & Vienna 2002, 2005, 2006a).

Notes. Given the fact that the specimen from Ozieri belongs in reality to *Margarinotus* (*Ptomister*) *brunneus* (see notes under this species) and that, apart from the generic citations listed above, the occurrence of this species in Sardinia is documented neither in the literature (Tab. 1) nor in the studied collections, *M. merdarius* is excluded from the Sardinian histerid fauna.

***Margarinotus* (*Eucalohister*) *bipustulatus* (Schrank)**

Hister fimetarius Herbt.: Bertolini 1904: 48; Porta 1926: 370
Margarinotus (*Stenister*) *bipustulatus* (Schrank): Vienna 1980: 299

Literature data. "Sardinia" (Bertolini 1904; Porta 1926; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004).

Notes. This species was removed from the Italian fauna by Penati and Vienna (2002) together with *M. binotatus* (Erichson) and *M. kurdistanus* (Marseul), because all three are known only from very old and doubtful records (see Vienna 1980: 293–299); none of these records were confirmed after studying several collections during the preparation of Ckmap (Penati & Vienna 2005, 2006a) and after carefully screening the literature. Despite this, all three species were still cited from Italy by Mazur (2004) and Yélamos and Lackner (2004).

Margarinotus (*Stenister*) *graecus graecus* (Brullé)

Hister graecus Brull.: Bertolini 1872–1878: 83, 1904: 48; Porta 1926: 370

Literature data. "Sardinia" (Bertolini 1872–1878, 1904; Porta 1926; Yélamos & Lackner 2004).

Notes. Apart from the very generic citations listed above, the presence of this species in Sardinia is documented neither in the literature nor in the examined collections. Ever since Luigioni (1929; *cf*. Tab. 1) it has always been, in my opinion correctly, excluded from the Sardinian fauna, with the exception of the record by Yélamos and Lackner (2004), the source of which is unknown.

Margarinotus (*Stenister*) *obscurus* (Kugelann)

Hister stercorarius Hfm.: Bargagli 1871: 41; Bertolini 1872–1878: 83, 1904: 48; Porta 1926: 370

Literature data. "All of Italy" (Bertolini 1904; Porta 1926). "Sardinia" (Bargagli 1871; Bertolini 1872–1878).

Notes. Apart from the above very generic citations, the presence of this species in Sardinia is documented neither in the literature nor in the examined collections. It has always been excluded from the Sardinian fauna ever since Luigioni (1929; *cf*. Tab. 1), correctly so in my opinion.

Margarinotus (*Paralister*) *carbonarius carbonarius* (Hoffmann)

Hister carbonarius Ill.: Bertolini 1904: 48
Hister carbonarius Hoffm.: Porta 1926: 370

Literature data. "All of Italy" (Bertolini 1904; Porta 1926).

Notes. Species that should be considered foreign to the Sardinian histerid fauna, seeing that its presence on the island is documented neither in the literature (*cf*. Tab. 1) nor in the examined collections.

Margarinotus (*Paralister*) *neglectus* (Germar)

Hister neglectus Germ.: Bertolini 1904: 48; Porta 1926: 370

Literature data. "All of Italy" (Bertolini 1904; Porta 1926).

Notes. See comments to previous species.

Margarinotus (*Paralister*) *purpurascens* (Herbst)

Hister purpurascens Herbst: Bertolini 1904: 48; Porta 1926: 370; Barajon 1966

Hister (*Paralister*) *purpurascens* Herbst: Luigioni 1929: 367

Literature data. "All of Italy" (Bertolini 1904; Porta 1926). "Sardinia" (Luigioni 1929; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004).

Notes. Apart from the very generic citations reported above, the presence of this species on the island is documented neither in the literature nor in the examined collections and it was therefore considered absent from Sardinia already by Penati and Vienna (2002; *cf.* Tab. 1).

Margarinotus (*Paralister*) *ventralis* (Marseul)

Hister ventralis Mars.: Bertolini 1904: 48; Porta 1926: 370

Literature data. "All of Italy" (Bertolini 1904; Porta 1926).

Notes. See comments under *Margarinotus* (*Paralister*) *carbonarius carbonarius*.

Pachylister inaequalis (Olivier)

Hister inaequalis Ol.: Bargagli 1871: 40
Hister inaequalis Lin.: Bertolini 1872–1878: 83

Literature data. "All of Italy" (Bertolini 1904; Porta 1926). "Sardinia" (Bargagli 1871; Bertolini 1872–1878; Luigioni 1929; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004).

Notes. Apart from the above very generic citations, the presence of this species on the island is documented neither in the literature nor in the examined collections; it was therefore considered absent in Sardinia already by Penati and Vienna (2002) (*cf*. Tab. 1). Considering that it occurs in cow and horse dung (Vienna 1980; Yélamos 2002), that it is absolutely unmistakable for its shape and size (it is the largest Italian histerid) and that it occurs also in Corsica (Secq 2000a; Gomy 2007, 2008), I consider it unlikely that the first record for this species (Bargagli 1871) could have been due to a misidentification; on the contrary I think it may have become extinct, like in the Po Valley where it seems to have disappeared following the dramatic drop in grazing (Penati & Vienna 2005, 2006a).

Hister bissexstriatus Fabricius

Literature data. "All of Italy" (Bertolini 1904; Porta 1926). "Sardinia" (Luigioni 1929; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004; Penati & Vienna 2005, 2006a). Cagliari prov.: Villaputzu, "presso Gibbas, sotto le pietre" ["near Gibbas, under stones"], [26.IV.1882, ACo], 1 ex (Costa 1883).

Notes. Apart from the record published by Costa (1883), this species is known from Sardinia only based on very generic literature citations (see above) and no Sardinian specimen was found in the examined collections. Therefore, it is highly probable that all records from Bertolini (1904) onwards are based on Costa's (1883) one, which I consider at least doubtful, also considering the lack of data for *Hister bissexstriatus* from neighbouring Corsica (Yélamos & Lackner 2004). Having not examined the specimen collected by Achille Costa, which I presume is still found in his collection at the "Museo Zoologico" of the University of Naples (Poggi & Conci 1996), I consider the presence of this species on the island as doubtful, as already stated by Penati and Vienna (2002).

Hister grandicollis Illiger

Hister grandicollis Illig. var. *gibbus* Dahl *in litt*.: Gemminger & Harold 1868: 769

Literature data. "Sardinia" (Gemminger & Harold 1868; Bargagli 1871; Bertolini 1872–1878, 1904; Porta 1926; Barajon 1966; Vienna 1980; Mazur 1984; Audisio *et al*. 1995; Mazur 1997, 2004; Yélamos & Lackner 2004).

Notes. W-Mediterranean species very common in the Ibero-Balearic area (Yélamos 2002) and present also in France and Algeria (Mazur 2004). Frequently reported from Sardinia in the literature except by Luigioni (1929), who listed it among the species of doubtful origin or doubtful identification and excluded it from the Italian beetle fauna, and Penati and Vienna (2002), who consider its occurrence in Sicily and Sardinia as doubtful.

No Sardinian specimen, however, was found in the examined collections, and it is hard to believe that *H. grandicollis* can have escaped the attention of entomologists given its large size (6–9 mm long). Most likely, the older records (Gemminger & Harold 1868; Bargagli 1871) were based on specimens of the melanic forms of *Hister quadrimaculatus* (ff. *pelopis* Marseul and *gagates* Illiger) and *H. pustulosus* (f. *nigripennis* Bickhardt). In conclusion, I consider its occurrence in Sardinia as highly improbable.

Hister quadrinotatus quadrinotatus Scriba

Hister 4-notatus Scrb.: Bargagli 1871: 41

Literature data. "Sardinia" (Bargagli 1871; Bertolini 1904; Porta 1926; Luigioni 1929; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004).

Notes. Apart from the very generic citations reported above, the presence of this Turano-European species on the island has not been documented in the literature, nor were any specimens found in the examined collections; for this reason, the species was considered as absent from Sardinia (and Sicily) already by Penati and Vienna (2002; *cf*. Tab. 1).

Hister thoracicus Paykull

Hister amplicollis Er.: Bargagli 1871: 41; Bertolini 1872–1878: 83, 1904: 48; Heyden *et al*. 1906: 263; Porta 1926: 369

Literature data. "Sardinia" (Bargagli 1871; Bertolini 1872–1878, 1904; Heyden *et al*. 1906; Porta 1926; Luigioni 1929; Barajon 1966; Vienna 1980; Mazur 1984; Audisio *et al*. 1995; Mazur 1997, 2004; Yélamos & Lackner 2004).

Notes. This is another large species (7.0–8.5 mm) with a W-Mediterranean distribution, the presence of which in Sardinia, repeatedly reported in the literature (see above), was not confirmed by the study of the several collections. However, recently it was recorded from Corsica (Secq 1998); this, together with the records from mainland Italy cited by Penati and Vienna (2005, 2006a), allows us to suppose that the species could actually occur in Sardinia but was not found for many decades due to its rarity (Yélamos 2002) or that some specimens may be hidden in the collections, confused with melanic specimens of *Hister quadrimaculatus* (*cf.* Secq 1998; Yélamos 2002). In any case, its presence in Sardinia needs confirming.

***Eudiplister planulus* (Ménétries)**

Hister laco Mars.: Bertolini 1904: 48
Hister (*Atholus*) *planulus* Mén.: Porta 1926: 371
Hister (*Eudiplister*) *planulus* Mén. (*laco* Mars.): Luigioni 1929: 1017

Literature data. "Sardinia" (Bertolini 1904; Porta 1926).

Notes. Apart from the generic citation by Bertolini (1904), uncritically reported by Porta (1926), the presence of this species on the island has not been documented in the literature, nor were any specimens found in the examined collections. It has been excluded from the Italian fauna ever since Luigioni (1929; *cf*. Tab. 1).

***Atholus corvinus* (Germar)**

Hister corvinus Grm.: Bertolini 1904: 48
Hister (*Atholus*) *corvinus* Germ.: Porta 1926: 372

Literature data. "All of Italy" (Bertolini 1904; Porta 1926). Cagliari prov.: Burcéi, IV.1937, UL, 1 ex (CUL; Penati & Vienna 2005, 2006a).

Notes. Considering that the specimen from Burcei actually belongs to *Margarinotus* (*Ptomister*) *brunneus* (see notes to this species) and that, apart from the generic citations above, no literature records (Tab. 1) nor specimens in the collections were found, *Atholus corvinus* should be considered as absent from Sardinia.

***Atholus siculus* (Tournier)**

Hister siculus Tourn.: Stein & Weise 1877: 64; Heyden *et al*. 1883: 91, 1891: 174; Porta 1926: 369; Barajon 1966
Hister (*Hister*) *siculus* Tourn.: Winkler 1925: 482
Hister (*Atholus*) *siculus* Tourn.: Heyden *et al*. 1906: 264

Literature data. "Sardinia" (Stein & Weise 1877; Heyden *et al*. 1883, 1891, 1906; Winkler 1925; Porta 1926; Luigioni 1929; Barajon 1966; Vienna 1980; Mazur 1984; Audisio *et al*. 1995; Mazur 1997, 2004; Yélamos & Lackner 2004; Penati & Vienna 2005, 2006a).

Notes. The first record of this Turano-European species for Sardinia seems to be that of Stein and Weise (1877), subsequently reported in a number of works despite never having been confirmed by any finding. Its presence on the island, already "*doubtful and in need of confirmation*" according to Penati and Vienna (2002), was not confirmed even after checking the numerous collections examined during the present work, and the single record from Spain is equally considered doubtful (Yélamos 2002: 166).

Recently, the study of the Baudi di Selve collection allowed me to discover a Sardinian specimen of this species misidentified as "*Hister siculus* Tourn." (see notes under *A. debeauxi*); in my opinion, this proves that the supposed presence of *A. siculus* in Sardinia was originally due to a misidentification (of this or of another specimen). In conclusion, *Atholus siculus* should not be included in the histerid fauna of Sardinia.

Haeteriinae

***Sternocoelis puberulus* (Motschulsky)**

Literature data. "Sardinia" (Bertolini 1904; Winkler 1925; Porta 1926; Barajon 1966; Vienna 1980; Mazur 1984; Audisio *et al*. 1995; Yélamos 1995; Mazur 1997, 2004; Yélamos & Lackner 2004).

Notes. Despite being frequently recorded from Sardinia (see above) and Corsica, this species is endemic to mainland Sicily and the Egadi Islands (Sicily) (Luigioni 1929; Penati & Vienna 2002, 2005, 2006a). In fact, its presence in Sardinia (and Corsica) is not documented by any precise locality name in the literature (*cf.* Yélamos 1995), nor was it confirmed by any specimens in the examined collections; thus, the species should, without a doubt, be considered as absent from Sardinia.

Dendrophilinae

Dendrophilini

***Dendrophilus* (*Dendrophilus*) *pygmaeus* (Linnaeus)**

Literature data. "All of Italy" (Porta 1926).

Notes. Apart from the generic citation by Porta (1926), the presence of this species in Sardinia has not been documented in the literature (Tab. 1), nor were any specimens found in the examined collections.

Abraeinae

Abraeini

***Chaetabraeus* (*Chaetabraeus*) *lucidus* (Peyerimhoff)**

Literature data. "Sardinia, doubtful" (Yélamos & Lackner 2004).

Notes. Doubtfully recorded by Yélamos and Lackner (2004); the presence of this species on the island has not been documented in the literature (Tab. 1), nor were any specimens found in the examined collections.

Plegaderini

***Plegaderus* (*Plegaderus*) *dissectus* Erichson**

Literature data. "Sardinia" (Yélamos & Lackner 2004).

Notes. The presence of this species in Sardinia was not confirmed in the examined collections, nor has it been documented in the literature (Tab. 1) except for the record in Yélamos and Lackner (2004), the source of which is unknown.

Acritini

***Acritus* (*Acritus*) *italicus* Reitter**

Literature data. Oristano prov.: Oristano, sd, 1 ex (CGB; Penati & Vienna 2002, 2005, 2006a).

Notes. Considering that the specimen from Oristano is in fact an *Acritus* (*Acritus*) *nigricornis* (see notes under that species) and that the presence of this species in Sardinia is neither documented in the literature (Tab. 1) nor confirmed by the study of the various examined collections, *A. italicus* is excluded from the Sardinian histerid fauna.

***Acritus* (*Acritus*) *minutus* (Herbst)**

Literature data. "All of Italy" (Porta 1926). "Sardinia" (Yélamos & Lackner 2004). Cagliari prov.: Cagliari, 15.II.1883, AD, 2 ex (CAD; Penati & Vienna 2002, 2005, 2006a); *idem*, sd, UL, 1 ex (CAD; Penati & Vienna 2002, 2005, 2006a). Oristano prov.: Oristano, 19.V.1902, AD, 1 ex (CAD; Penati & Vienna 2002, 2005, 2006a). Sassari prov.: Tempio Pausania, 21.IV.1903, AD, 1 ex (CAD; Penati & Vienna 2002, 2005, 2006a).

Notes. Considering that the specimens from Cagliari, Oristano and Tempio Pausania (CAD) actually belong to *Acritus* (*Acritus*) *nigricornis* (see notes under that species) and that, apart from the above, very generic records, the presence of this species in Sardinia is documented neither in the literature (Tab. 1) nor in the examined collections, *A. minutus* should be considered as absent from Sardinia.

Saprininae

***Gnathoncus nidorum* Stockmann**

Literature data. "Sardinia" (Audisio *et al*. 1995; Mazur 2004; Yélamos & Lackner 2004).

Notes. This species does not occur in Italy (see for example Vienna 1980; Penati & Vienna 2002, 2005, 2006a). Its record from Sardinia by Audisio *et al*. (1995) is due to a printing error in the regional distribution table in Vienna (1980: 49–54), where *G. nidorum* is given as present on the island, contrary to that stated in the treatment of the species: "*Non ancora segnalato per l'Italia*" [= not yet recorded from Italy] (Vienna 1980: 125). The absence of this species is confirmed by the lack of Sardinian or Italian specimens in the examined collections (see also Penati & Vienna 2005, 2006a) and the lack of records in the literature, with the exception of Mazur (2004) and Yélamos and Lackner (2004) who probably uncritically followed Audisio *et al*. (1995), thus ignoring the correction made by Penati and Vienna (2002).

***Saprinus* (*Saprinus*) *aeneus* (Fabricius)**

Literature data. "All of Italy" (Bertolini 1904; Porta 1926). "Sardinia" (Barajon 1966). Cagliari prov.: Cagliari, dint., [IV–VI.1882, ACo], 1 ex (Costa 1883).

Notes. Apart from the old record by Costa (1883), this species is known from Sardinia on the basis of only three, very generic (see above) bibliographic references, and no Sardinian specimen was found in the collections examined. Thus, it is probable that all records from Bertolini (1904) onwards are based on that of Costa (1883), which I consider rather doubtful given the absence of data for *Saprinus aeneus* also from the neighbouring island of Corsica (see for example Secq & Secq 1997; Secq 2000b;Yélamos & Lackner 2004). I therefore exclude the presence of this species in Sardinia, at least until the identity of the specimen collected by Achille Costa is verified, providing that this specimen still exists (see notes under *Hister bissexstriatus*).

***Saprinus* (*Saprinus*) *beduinus* Marseul**

Literature data. "Sardinia, doubtful" (Yélamos & Lackner 2004).

Notes. Recorded with doubt by Yélamos and Lackner (2004); the presence of this species in Sardinia is otherwise not documented in the literature (Tab. 1) and no specimens were found in the examined collections.

***Saprinus* (*Saprinus*) *lateralis* Motschulsky**

Saprinus concinnus Motsch.: Bertolini 1904: 48; Porta 1926: 376

Saprinus (*Saprinus*) *lateralis* Motsch. (*concinnus* Motsch.): Luigioni 1929: 1017

Literature data. "Sardinia" (Bertolini 1904; Porta 1926).

Notes. Apart from the generic citation by Bertolini (1904), uncritically reported by Porta (1926), the presence of this species in Sardinia is not mentioned in the literature (Tab. 1) and no specimens were found in the examined collections. From Luigioni (1929) onwards it has always been excluded from the Italian fauna.

Saprinus (*Saprinus*) *lautus* Erichson

Literature data. "Sardinia" (Bertolini 1904; Porta 1926; Luigioni 1929; Horion 1949; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Yélamos & Lackner 2004).

Notes. The specimen of *Saprinus algericus* present in the Baudi di Selve collection under the name "*S. lautus*" proves, in my opinion, that the first record of *S. lautus* for Sardinia, later reported by several authors, was probably based on a misidentification. In reality, as already stated by Penati and Vienna (2002), *S. lautus* is absent from Sardinia.

Saprinus (*Saprinus*) *lugens* Erichson

Literature data. "Sardinia" (Yélamos & Lackner 2004).

Notes. The presence in Sardinia of this alien species of Nearctic origin, known from mainland Italy (Abruzzi), France and Spain (Mazur 2004), was not confirmed by the examination of the various collections, nor is it documented in the literature (Tab. 1) apart from the record in Yélamos and Lackner (2004), the origin of which is unknown.

Saprinus (*Saprinus*) *maculatus* (P. Rossi)

Literature data. "Sardinia" (Bargagli 1871; Bertolini 1904; Porta 1926).

Notes. Apart from the above citations, which probably arise from confusion with *Saprinus cruciatus cruciatus* (see discussion in Penati & Vienna 2006c), the presence of this species in Sardinia is documented neither in the literature (Tab. 1) nor in the examined collections. From Luigioni (1929) onwards it has always been excluded from the Sardinian fauna (*cf*. Tab. 1).

Saprinus (*Saprinus*) *planiusculus* Motschulsky

Literature data. "Sardinia" (Vienna 1980; Audisio *et al*. 1995; Penati & Vienna 2002; Yélamos & Lackner 2004).

Notes. This species was for a long time and by many authors considered a synonym of *Saprinus semistriatus* (see for example Luigioni 1929), so no records ascribable with certainty to this species exist in the literature prior to Vienna (1980). Moreover, in Italy it is widespread and very frequently sympatric with *Saprinus semistriatus* and *S. subnitescens* (see Penati & Vienna 2005, 2006a), with which it has often been confused (see notes under *S. subnitescens*). This situation does not give a clear and definitive picture of the Italian distribution of *S. planiusculus*. Nevertheless, no Sardinian specimen was found in the examined collections and I therefore consider it as absent from the island, as already suggested by Penati and Vienna (2005, 2006a).

***Saprinus* (*Saprinus*) *prasinus prasinus* Erichson**

Literature data. "Sardinia" (Bargagli 1871; Bertolini 1904; Porta 1926; Barajon 1966; Vienna 1980; Mazur 1984; Audisio *et al*. 1995; Mazur 1997, 2004; Yélamos & Lackner 2004).

Notes. E-Mediterranean species reaching the Caucasus and Iran eastwards (Mazur 2004); it was first cited from Sardinia by Bargagli (1871), after suggestion by Baudi, and later uncritically reported by Bertolini (1904), Porta (1926), Mazur (1997, 2004) and Yélamos and Lackner (2004). On the other hand, Luigioni (1929) excluded it from the Italian fauna and listed it among the species of uncertain origin or doubtful identification, whereas Barajon (1966) recorded it as doubtful in Sardinia, as did Vienna (1980), who affirmed: "*the record 'Sardinia' by Bertolini gives no further information and needs confirming in my opinion*" [translated from the Italian original]. Meanwhile it was still included in the Italian checklist (Audisio *et al*. 1995), before being definitively excluded by Penati and Vienna (2002, 2005, 2006a), who found no Sardinian or even Italian specimens in the collections examined by them. Being absent also in France and Spain (*cf.* Mazur 2004), *S. prasinus* was excluded from the new key to the recognition of *Saprinus* species of these three countries (Penati & Vienna 2007).

During the preparatory work for the present catalogue, while examining the Baudi di Selve collection I found, much to my surprise, four specimens of *S. prasinus*, all correctly identified and indicated in the handwritten catalogue as coming from Sardinia! Seeing that the western limit of the distribution range of this species is Greece and that Baudi could easily have made a mistake when jotting down the origin of these specimens (no specimens in his collection carry a locality label and the locality, which is nearly always generic, is only given in the handwritten catalogue [see also comment under *Phelister haemorrhous*]), I consider it wise to exclude *S. prasinus* from the Italian histerid fauna, at least until possible new findings demonstrate its presence in Sardinia or elsewhere in Italy.

***Saprinus* (*Saprinus*) *virescens* (Paykull)**

Literature data. "Sardinia" (Gobbi 1973; Penati & Vienna 2005, 2006a).

Notes. The first and so far only record of this rare species from Sardinia is based on the annotation "Sardegna" [= Sardinia] added by hand by Luigioni to his own catalogue (Gobbi 1973). No Sardinian specimens of *S. virescens* were found in Luigioni's collection nor in any of the other collections examined by Penati and Vienna (2005, 2006a), who nonetheless reported Gobbi's (1973) record. However, given the fact that the additional researches did not provide any new data and that the species is absent also from neighbouring Corsica (Secq & Secq 1997), I consider the above record to be based on a misidentification and therefore exclude the species from the Sardinian histerid fauna.

***Euspilotus* (*Neosaprinus*) *perrisi* (Marseul)**

Saprinus Perrisi Mars.: Holdhaus, 1924: 119

Literature data. "Endemic of Corsica and Sardinia" (Holdhaus 1924 [translated from German]).

Notes. The presence of this species in Sardinia is documented neither in the examined collections nor in the literature (Tab. 1), except for the erroneous record by Holdhaus (1924), the source of which is unknown. The species is cited from nearby Corsica (*cf.* Mazur 2004), but it is foreign to the Italian fauna (*cf.* Vienna 1980).

***Hypocacculus* (*Colpellus*) *solieri* (Marseul)**

Saprinus Solieri Marsh. [sic!]: Bargagli 1871: 41
Saprinus Solieri Muls.: Bertolini 1872–1878: 84
Saprinus Solieri Mars.: Bertolini 1904: 49

Literature data. "Sardinia" (Bargagli 1871; Bertolini 1872–1878, 1904; Vienna 1980; Mazur 1984; Audisio *et al*. 1995; Mazur 1997, 2004; Yélamos & Lackner 2004).

Notes. I consider the record of this species from Sardinia as based on a misidentification of specimens actually belonging to the closely related *Hypocacculus* (*Colpellus*) *praecox*, which certainly occurs on the island (see faunistic list). After having been ignored by Porta (1926) and by Luigioni (1929) and cited with doubt by Vienna (1980), *H. solieri* was removed from the Italian fauna by Penati and Vienna (2002). This was confirmed by the absence, in the examined collections, of specimens from Sardinia and other Italian localities (see also Penati & Vienna 2005, 2006a).

***Hypocacculus* (*Hypocacculus*) *elongatulus elongatulus* (Rosenhauer)**

Saprinus Mocquerysi Mars.: Bertolini 1904: 48

Literature data. "Sardinia" (Bertolini 1904; Porta 1926, 1934; Barajon 1966; Audisio *et al*. 1995; Penati & Vienna 2002; Mazur 2004; Yélamos & Lackner 2004; Penati & Vienna 2005, 2006a).

Notes. This W-Mediterranean species was first recorded from Sardinia by Bertolini (1904) and later uncritically reported by numerous other authors (see above and Tab. 1) but not by Luigioni (1929), who excluded it from the Italian beetle fauna and listed it among the species of uncertain origin or of doubtful determination, as did Vienna (1980), who considered its presence in Italy as rather doubtful. An in-depth study of the collections at MSNG allowed me to discover a specimen of *Hypocacculus* (*Colpellus*) *praecox* in the Dodero collection (CAD), identified as *Saprinus mocquerysi* Marseul, a synonym of *Hypocacculus elongatulus elongatulus*. This shows that Bertolini's (1904) record may well have been based on a misidentification, and that *H. elongatulus* is almost certainly not part of the Sardinian histerid fauna.

***Hypocaccus* (*Hypocaccus*) *erosus* (Wollaston)**

Literature data. "Sardinia" (Yélamos & Lackner 2004).

Notes. This species is endemic to the Canary Islands (*cf.* Mazur 1984, 1997, 2004); its presence in Sardinia is documented neither in the collections examined nor in the literature (Tab. 1), except for the record by Yélamos and Lackner (2004), the source of which is unknown.

***Hypocaccus* (*Hypocaccus*) *metallicus* (Herbst)**

Saprinus (*Hypocaccus*) *metallicus* Herbst: Porta 1926: 379

Literature data. "All of Italy" (Porta 1926). "Sardinia" (Yélamos & Lackner 2004).

Notes. Apart from the generic citation by Porta (1926) and that by Yélamos and Lackner (2004), the source of which is unknown, the presence of this species in Sardinia is documented neither in the literature (Tab. 1), nor in the examined collections.

***Hypocaccus* (*Hypocaccus*) *rugiceps* (Duftschmid)**

Saprinus 4-striatus Hoffm.: Bargagli 1871: 41
Saprinus quadristriatus H.: Bertolini 1872–1878: 84, 1904: 48
Saprinus (*Hypocaccus*) *quadristriatus* Hoffm.: Porta 1926: 379
Hypocacculus rugiceps Dft.: Horion 1949: 342

Literature data. "Sardinia" (Bargagli 1871; Bertolini 1872–1878, 1904; Porta 1926; Luigioni 1929; Horion 1949; Barajon 1966; Vienna 1980; Audisio *et al*. 1995; Penati & Vienna 2002; Yélamos & Lackner 2004; Penati & Vienna 2005, 2006a).

Notes. Rare Sibero-European species, mainly associated in Italy with freshwater sandy habitats (*cf.* Penati & Vienna 2005, 2006a). It was first recorded from Sardinia by Bargagli (1871) and later uncritically reported by several other authors, albeit with doubt by Vienna (1980), Audisio *et al*. (1995) and Penati and Vienna (2002). The absence of specimens from Sardinia in the examined collections, together with its absence from Corsica (*cf.* Secq 2000b), suggests that this species was recorded from Sardinia due to a misidentification and is thus absent from the Sardinian fauna.

Remarks

Faunistic remarks. At the present state of knowledge, 74 species have been recorded with a good degree of certainty from Sardinia, corresponding to 44.8% of the total Italian fauna (165; see chapter Introduction). Tab. 1 shows that this number (74) is much lower than the total number of species recorded in the literature (117), only 32 of which are cited in all the considered papers. On the other hand, there are only 35 species "in common" between the most recent faunistic list (the present one) and the oldest one (Bargagli 1871). These differences can be explained by the fact that several taxa were excluded for the reasons described in detail in the chapter "Excluded and/or doubtful species", whereas others were added because new to science or never before collected on the island.

On the whole, in spite of the various removals and additions (Tab. 1), the number of species has remained more or less stable in the past thirty years: 76 in Vienna (1980), 77 in Penati and Vienna (2005, 2006a) and 74 in the present work. This shows that, probably, the Sardinian histerid fauna is almost completely known, and that it will be unlikely to find many additional species in the future. Nevertheless, as many as 10 species (13.6% of the total) are known from a single specimen, namely (see also Tab. 6) *Tribalus* (*Tribalus*) *minimus*, *Platysoma* (*Cylister*) *elongatum elongatum*, *Hister unicolor unicolor*, *Merohister ariasi*, *Atholus paganettii*, *Paromalus* (*Paromalus*) *filum*, *Gnathoncus communis*, *G. nannetensis*, *Saprinus* (*Microsaprinus*) *gomyi* and *Exaesiopus grossipes grossipes*. I think that these species, together with those that have not been found in the past twenty years (see Tab. 6), should receive the attention of specialists in the years to come.

Finally, it is noteworthy that of the 74 recorded species one, *Hypocacculus* (*Nessus*) *puncticollis*, was described on Sardinian and Spanish material, and as many as seven were described on Sardinian specimens: *Hister pustulosus*, *Atholus debeauxi*, *Sardulus incrassatus*, *S. sacerensis*, *S. spelaeus*, *Gnathoncus cerberus* and *Hypocacculus* (*Hypocacculus*) *metallescens*.

Zoogeographical remarks. For the chorological analysis, the 74 species were subdivided into eight main groups of chorotypes (Tab. 2), based on which the chorological spectrum (Tab. 3) was calculated. The most represented group is that of the species widespread in the Holarctic region (31 species, 41.9%), among which the Sibero-European species are prevalent (7), followed by the Palearctic ones (5) and the Centralasiatic-Europeo-Mediterranean ones (4), which together constitute over 50% of the group.

The second-largest group is that of the species more or less widespread in the Mediterranean basin (17 species, 23%), among which the Mediterranean species (10) are slightly more numerous than the W-Mediterranean ones (7); noteworthy is the absence of E-Mediterranan and N-African taxa.

TABLE 2. Summary of the chorotypes of Sardinian Histeridae, ordered according to the main groups defined by Vigna Taglianti *et al*. (1999).

Main groups of chorotypes	Chorotypes
1. Species widespread in the Holarctic region	
41. *Gnathoncus communis*	1.01 OLA
07. *Eurosoma minor*	1.02 PAL
21. *Atholus praetermissus*	1.02 PAL
30. *Paromalus* (*Paromalus*) *parallelepipedus*	1.02 PAL
42. *Gnathoncus nannetensis*	1.02 PAL
55. *Saprinus* (*Saprinus*) *semistriatus*	1.02 PAL
19. *Atholus duodecimstriatus duodecimstriatus*	1.03 WPA
29. *Paromalus* (*Paromalus*) *flavicornis*	1.03 WPA
60. *Chalcionellus decemstriatus decemstriatus*	1.04 ASE
04. *Platysoma* (*Cylister*) *elongatum elongatum*	1.05 SIE
08. *Margarinotus* (*Ptomister*) *brunneus*	1.05 SIE
15. *Hister unicolor unicolor*	1.05 SIE
31. *Chaetabraeus* (*Chaetabraeus*) *globulus*	1.05 SIE
39. *Teretrius* (*Teretrius*) *fabricii*	1.05 SIE
59. *Chalcionellus amoenus*	1.05 SIE
71. *Hypocaccus* (*Hypocaccus*) *rugifrons rugifrons*	1.05 SIE
34. *Acritus* (*Pycnacritus*) *homoeopathicus*	1.06 CEM
44. *Saprinus* (*Saprinus*) *acuminatus acuminatus*	1.06 CEM
52. *Saprinus* (*Saprinus*) *georgicus*	1.06 CEM
56. *Saprinus* (*Saprinus*) *subnitescens*	1.06 CEM
11. *Hister illigeri illigeri*	1.07 CAE
46. *Saprinus* (*Saprinus*) *caerulescens caerulescens*	1.08 CAM
47. *Saprinus* (*Saprinus*) *calatravensis*	1.08 CAM
53. *Saprinus* (*Saprinus*) *godet*	1.08 CAM
14. *Hister quadrimaculatus*	1.09 TEM
45. *Saprinus* (*Saprinus*) *algericus*	1.09 TEM
03. *Tribalus* (*Tribalus*) *minimus*	1.10 TUE
12. *Hister lugubris*	1.10 TUE
22. *Haeterius ferrugineus*	1.10 TUE
36. *Aeletes* (*Aeletes*) *atomarius*	1.12 EUM
69. *Hypocaccus* (*Hypocaccus*) *crassipes*	1.12 EUM
2. Species widespread in Europe	
10. *Hister helluo*	2.01 EUR
02. *Epierus comptus*	2.04 SEU
16. *Merohister ariasi*	2.04 SEU
32. *Abraeus* (*Abraeus*) *perpusillus*	2.04 SEU
54. *Saprinus* (*Saprinus*) *politus politus*	2.04 SEU
57. *Saprinus* (*Microsaprinus*) *gomyi*	2.04 SEU
73. *Exaesiopus grossipes grossipes*	2.04 SEU

.....continued

TABLE 2 (continued)

Main groups of chorotypes	Chorotypes
3. Species more or less widespread in the Mediterranean basin	
05. *Platysoma* (*Cylister*) *filiforme*	3.01 MED
09. *Pactolinus major*	3.01 MED
23. *Kissister minimus*	3.01 MED
28. *Paromalus* (*Paromalus*) *filum*	3.01 MED
33. *Eubrachium hispidulum*	3.01 MED
37. *Halacritus punctum*	3.01 MED
51. *Saprinus* (*Saprinus*) *furvus*	3.01 MED
58. *Chalcionellus aemulus*	3.01 MED
66. *Hypocacculus* (*Nessus*) *puncticollis*	3.01 MED
72. *Hypocaccus* (*Baeckmanniolus*) *dimidiatus dimidiatus*	3.01 MED
01. *Onthophilus globulosus*	3.02 WME
06. *Platylister* (*Popinus*) *algiricus*	3.02 WME
20. *Atholus paganettii*	3.02 WME
49. *Saprinus* (*Saprinus*) *cruciatus cruciatus*	3.02 WME
50. *Saprinus* (*Saprinus*) *detersus*	3.02 WME
65. *Hypocacculus* (*Nessus*) *ferreri*	3.02 WME
70. *Hypocaccus* (*Hypocaccus*) *pelleti*	3.02 WME
4. Afrotropical and Oriental species also present in the Mediterranean area	
48. *Saprinus* (*Saprinus*) *chalcites*	4.01 AIM
38. *Teretrius* (*Neotepetrius*) *parasita*	4.02 AFM
61. *Hypocacculus* (*Colpellus*) *praecox*	4.02 AFM
64. *Hypocacculus* (*Nessus*) *ascendens*	4.02 AFM
63. *Hypocacculus* (*Hypocacculus*) *spretulus*	4.03 INM
5. Widespread species occurring only in marginal areas of the Mediterranean	
74. *Xenonychus tridens*	5.04 SAS
6. Cosmopolitan and subcosmopolitan species	
17. *Atholus bimaculatus*	
27. *Carcinops* (*Carcinops*) *pumilio*	
35. *Acritus* (*Acritus*) *nigricornis*	
43. *Gnathoncus rotundatus*	
67. *Hypocacculus* (*Nessus*) *rubripes*	
68. *Hypocaccus* (*Hypocaccus*) *brasiliensis*	
7. Endemic species	
13. *Hister pustulosus*	Si-Sa-Co
18. *Atholus debeauxi*	Sa-Co
24. *Sardulus incrassatus*	Sa
25. *Sardulus sacerensis*	Sa
26. *Sardulus spelaeus*	Sa
8. Species the distribution of which needs to be defined	
40. *Gnathoncus cerberus*	
62. *Hypocacculus* (*Hypocacculus*) *metallescens*	

TABLE 3. Chorological spectrum of the Sardinian Histeridae.

Groups Chorotypes	Number of species
1. Chorotypes of species widespread in the Holarctic region	**31** **41.9%**
1.01 OLA Holarctic	1
1.02 PAL Palearctic	5
1.03 WPA W-Palearctic	2
1.04 ASE Asiatic-European	1
1.05 SIE Sibero-European	7
1.06 CEM Centralasiatic-Europeo-Mediterranean	4
1.07 CAE Centralasiatic-European	1
1.08 CAM Centralasiatic-Mediterranean	3
1.09 TEM Turano-Europeo-Mediterranean	2
1.10 TUE Turano-European	3
1.12 EUM Europeo-Mediterranean	2
2. Chorotypes of species of widespread European distribution	**7** **9.5%**
2.01 EUR European	1
2.04 SEU S-European	6
3. Chorotypes of species more or less widespread in the Mediterranean basin	**17** **23.0%**
3.01 MED Mediterranean	10
3.02 WME W-Mediterranean	7
4. Chorotypes of Afrotropical and Oriental species present also in the Mediterranean area	**5** **6.8%**
4.01 AIM Afrotropical-Indo-Mediterranean	1
4.02 AFM Afrotropical-Mediterranean	3
4.03 INM Indo-Mediterranean	1
5. Chorotypes of widespread species present also in marginal areas of the Mediterranean	**1** **1.3%**
5.04 SAS Saharo-Sindian	1
6. Cosmopolitan or subcosmopolitan species	**6** **8.1%**
7. Endemic species	**5** **6.8%**
8. Species the distribution of which needs defining	**2** **2.6%**

These first two groups alone make up for 64.9% of the total (48 species out of 74), whereas the remaining 35.1% are distributed among the six other groups: species with a wide European distribution (7 species, 9.5%), cosmopolitan/subcosmopolitan species (6, 8.1%), Afrotropical and Oriental species occurring also in the Mediterranean and endemic species (each with 5 species, 6.8%), species with a wide distribution only in marginal areas of the Mediterranean (1, 1.3%), and species with a distribution to be defined (2, 2.6%). The percentage of endemic species (6.8%) is noteworthy: three are Sardinian endemics and two occur also outside the island (see Tab. 2).

If the analysis is carried out on the 22 apparently most abundant and widespread species, i.e. those with the highest number of captures recorded in the faunistic list, the resulting chorological spectrum (Tab. 4) is rather different. Indeed, even though the percentage of species widespread in the Holarctic region remains almost the same (40.9%), that of the species with a wide distribution in the Mediterranean basin increases considerably (31.9%). If *Saprinus chalcites*, an Afrotropical-Indo-Mediterranean species which is a typical "Mediterranean" element of our fauna, and *Hister pustulosus*, a Sicilian-Sardo-Corsican endemic, are added to this group, the percentage of "Mediterranean" species becomes equal to that of the species widespread in the Holarctic (40.9%). This is not surprising considering the current position of the island and its palaeogeographical history, but it shows that the Sardinian histerid fauna is more markedly Mediterranean than suggested by the analysis carried out on all 74 species.

Hopefully, in the future, these results will be compared with those obtained for other insect groups, and will help to better understand the history of the Sardinian insect assemblage.

Ecological remarks. In Tab. 5, the species are ordered into morpho-ecological groups and analysed. The largest group is that of the saprophiles, with 37 species corresponding to 50% of the total; this is not surprising considering that these are mainly "generalist" Histeridae occurring in carcasses, dung, vegetable matter, etc., all relatively common and widespread microhabitats in not excessively anthropized areas. More interesting groupings are those of the psammophiles (12 species = 16.2%), the dendrophiles (10 species = 13.5%) and the microhisterids (7 species = 9.5%).

The high percentage of psammophile species, most of which are exclusive of marine sandy habitats (beaches, dunes, lagoons, etc.), but some of which also occur inland (in riverbeds, on banks, etc.), can be easily explained by the great extension of these types of habitat (particularly the coastal ones) in Sardinia. Similarly, the number of dendrophile species, most of which are associated to broadleaved trees, would seem to indicate the good degree of conservation of Sardinian woodlands, at least in terms of richness in dead wood; this statement needs verifying however as three of these species have not been collected since 1960 (*cf.* Tab. 6 and following paragraph).

It is rather difficult to explain the ecological reasons behind the relatively high number of micro-histerids, as this group is separated from the others for morphological (small or minute size, very thin legs and body mainly globular) and trophic (feeding on mites, nematodes, etc. and fungal spores) characteristics, but is very heterogeneous from an ecological point of view, particularly with regard to habitat preferences (dung, vegetable detritus and soil, stranded algae, etc.). In fact, these species are probably more abundant and widespread than is known, but given their small size they escape capture more easily, unless sampling is carried out with appropriate methods (sieving, soil-washing, Berlese funnels, etc.); the good results for this group in Sardinia could be due to the extensive researches carried out throughout the island.

Conservation remarks. I consider it best to limit remarks on the conservation status of the Sardinian Histeridae to general considerations like those provided by Penati and Vienna (2005, 2006a) for the Italian histerid fauna, reported fully in the paragraph "Conservation" in the chapter Material and methods. No taxon of this family has ever been subject to specific conservation studies, neither at a European level nor at a World level, also due to the patchy knowledge of their biology and ecology. As a consequence, Histeridae are not usually included in the various lists of threatened or vulnerable species, apart from a few regional redlists (see for example Kahlen *et al*. 1994). Moreover, I do not consider rarity as a valid index as it is often influenced by lack of research, as fully demonstrated by the case of *Sardulus spelaeus*, or inadequate sampling techniques.

That said, in Tab. 6 I have made an attempt to list the 74 Sardinian species in growing order of last capture date (taken from the data reported in the "Species list"), indicating at the same time the morpho-ecological group they belong to. Despite the lack of homogeneity and the patchiness of the initial data, the picture that emerges, roughly divided into five time periods, allows for a few considerations to be made.

Fifty-five species, i.e. 74.3% of the total, were collected between 1990 and 2008; in my opinion they represent the current, certain histerid fauna of Sardinia. It should be noted that several of these species are

considered "rare", such as *Saprinus godet*, *Atholus debeauxi*, *Merohister ariasi*, *Hister helluo*, *Teretrius fabricii* and *Hypocaccus pelleti*, to cite a few, and that four of them (Tab. 6) are known from a single record (see also paragraph "Faunistic remarks").

TABLE 4. Chorological spectrum of the most abundant and widespread species.

Principal groups of chorotypes Species	Chorotypes	n
1. Species widespread in the Holarctic region		**9** **40.9%**
19. *Atholus duodecimstriatus duodecimstriatus*	1.03 WPA	
60. *Chalcionellus decemstriatus decemstriatus*	1.04 ASE	
08. *Margarinotus* (*Ptomister*) *brunneus*	1.05 SIE	
31. *Chaetabraeus* (*Chaetabraeus*) *globulus*	1.05 SIE	
52. *Saprinus* (*Saprinus*) *georgicus*	1.06 CEM	
56. *Saprinus* (*Saprinus*) *subnitescens*	1.06 CEM	
11. *Hister illigeri illigeri*	1.07 CAE	
46. *Saprinus* (*Saprinus*) *caerulescens caerulescens*	1.08 CAM	
14. *Hister quadrimaculatus*	1.09 TEM	
2. Species widespread in Europe		**1** **4.5%**
54. *Saprinus* (*Saprinus*) *politus politus*	2.04 SEU	
3. Species more or less widespread in the Mediterranean basin		**7** **31.9%**
09. *Pactolinus major*	3.01 MED	
23. *Kissister minimus*	3.01 MED	
51. *Saprinus* (*Saprinus*) *furvus*	3.01 MED	
58. *Chalcionellus aemulus*	3.01 MED	
72. *Hypocaccus* (*Baeckmanniolus*) *dimidiatus dimidiatus*	3.01 MED	
01. *Onthophilus globulosus*	3.02 WME	
50. *Saprinus* (*Saprinus*) *detersus*	3.02 WME	
4. Afrotropical and Oriental species present also in the Mediterranean basin		**1** **4.5%**
48. *Saprinus* (*Saprinus*) *chalcites*	4.01 AIM	
5. Widespread species present only in marginal areas of the Mediterranean		**-**
6. Cosmopolitan or subcosmopolitan species		**3** **13.7%**
17. *Atholus bimaculatus*		
67. *Hypocacculus* (*Nessus*) *rubripes*		
68. *Hypocaccus* (*Hypocaccus*) *brasiliensis*		
7. Endemic species		**1** **4.5%**
13. *Hister pustulosus*	Si-Sa-Co	
8. Species the distribution of which needs defining		**-**

TABLE 5. Morpho-ecological spectrum of the Sardinian Histerid fauna.

Morpho-ecological groups	n
1. Dendrophiles	**10**
	13.5%
02. *Epierus comptus*	
04. *Platysoma* (*Cylister*) *elongatum elongatum*	
05. *Platysoma* (*Cylister*) *filiforme*	
06. *Platylister* (*Popinus*) *algiricus*	
07. *Eurosoma minor*	
28. *Paromalus* (*Paromalus*) *filum*	
29. *Paromalus* (*Paromalus*) *flavicornis*	
30. *Paromalus* (*Paromalus*) *parallelepipedus*	
38. *Teretrius* (*Neotepetrius*) *parasita*	
39. *Teretrius* (*Teretrius*) *fabricii*	
2. Saprophiles	**37**
	50.0%
01. *Onthophilus globulosus*	
03. *Tribalus* (*Tribalus*) *minimus*	
08. *Margarinotus* (*Ptomister*) *brunneus*	
09. *Pactolinus major*	
10. *Hister helluo*	
11. *Hister illigeri illigeri*	
12. *Hister lugubris*	
13. *Hister pustulosus*	
14. *Hister quadrimaculatus*	
15. *Hister unicolor unicolor*	
16. *Merohister ariasi*	
17. *Atholus bimaculatus*	
18. *Atholus debeauxi*	
19. *Atholus duodecimstriatus duodecimstriatus*	
20. *Atholus paganettii*	
21. *Atholus praetermissus*	
23. *Kissister minimus*	
27. *Carcinops* (*Carcinops*) *pumilio*	
44. *Saprinus* (*Saprinus*) *acuminatus acuminatus*	
45. *Saprinus* (*Saprinus*) *algericus*	
46. *Saprinus* (*Saprinus*) *caerulescens caerulescens*	
47. *Saprinus* (*Saprinus*) *calatravensis*	
48. *Saprinus* (*Saprinus*) *chalcites*	
49. *Saprinus* (*Saprinus*) *cruciatus cruciatus*	
50. *Saprinus* (*Saprinus*) *detersus*	
51. *Saprinus* (*Saprinus*) *furvus*	
52. *Saprinus* (*Saprinus*) *georgicus*	
53. *Saprinus* (*Saprinus*) *godet*	
54. *Saprinus* (*Saprinus*) *politus politus*	

.....continued

TABLE 5 (continued).

Morpho-ecological groups	n
55. *Saprinus* (*Saprinus*) *semistriatus*	
56. *Saprinus* (*Saprinus*) *subnitescens*	
57. *Saprinus* (*Microsaprinus*) *gomyi*	
58. *Chalcionellus aemulus*	
59. *Chalcionellus amoenus*	
60. *Chalcionellus decemstriatus decemstriatus*	
62. *Hypocacculus* (*Hypocacculus*) *metallescens*	
63. *Hypocacculus* (*Hypocacculus*) *spretulus*	
3. Psammophiles	**12**
	16.2%
61. *Hypocacculus* (*Colpellus*) *praecox*	
64. *Hypocacculus* (*Nessus*) *ascendens*	
65. *Hypocacculus* (*Nessus*) *ferreri*	
66. *Hypocacculus* (*Nessus*) *puncticollis*	
67. *Hypocacculus* (*Nessus*) *rubripes*	
68. *Hypocaccus* (*Hypocaccus*) *brasiliensis*	
69. *Hypocaccus* (*Hypocaccus*) *crassipes*	
70. *Hypocaccus* (*Hypocaccus*) *pelleti*	
71. *Hypocaccus* (*Hypocaccus*) *rugifrons rugifrons*	
72. *Hypocaccus* (*Baeckmanniolus*) *d. dimidiatus*	
73. *Exaesiopus grossipes grossipes*	
74. *Xenonychus tridens*	
4. Pholeophiles	**4**
	5.4%
40. *Gnathoncus cerberus*	
41. *Gnathoncus communis*	
42. *Gnathoncus nannetensis*	
43. *Gnathoncus rotundatus*	
5. Micro-histerids	**7**
	9.5%
31. *Chaetabraeus* (*Chaetabraeus*) *globulus*	
32. *Abraeus* (*Abraeus*) *perpusillus*	
33. *Eubrachium hispidulum*	
35. *Acritus* (*Acritus*) *nigricornis*	
34. *Acritus* (*Pycnacritus*) *homoeopathicus*	
36. *Aeletes* (*Aeletes*) *atomarius*	
37. *Halacritus punctum*	
6. Endogeans/troglobites	**3**
	4.1%
24. *Sardulus incrassatus*	
25. *Sardulus sacerensis*	
26. *Sardulus spelaeus*	
7. Inquiline species	**1**
	1.3%
22. *Haeterius ferrugineus*	

TABLE 6. List of species ordered according to last year of capture and grouped into time periods, with indication of the morpho-ecological group (MG). Legend: De = Dendrophiles; Sa = Saprophiles; Ps = Psammophiles; Ph = Pholeophiles; Mi = Micro-histerids; En = Endogeans/troglobites; Is = Inquiline species. Species known from a single capture are marked "#".

Time period Species	n	Year of last capture	MG
XIXth century and years 1900–1919	**4** **5.4%**		
03. *Tribalus* (*Tribalus*) *minimus* #		1872	Sa
02. *Epierus comptus*		1902	De
28. *Paromalus* (*Paromalus*) *filum* #		1905	De
20. *Atholus paganettii* #		<1912	Sa
1920–1939	**1** **1.4%**		
36. *Aeletes* (*Aeletes*) *atomarius*		1939	Mi
1950–1969	**4** **5.4%**		
63. *Hypocacculus* (*Hypocacculus*) *spretulus*		1955	Sa
06. *Platylister* (*Popinus*) *algiricus*		1960	De
40. *Gnathoncus cerberus*		1966	Ph
42. *Gnathoncus nannetensis* #		1967	Ph
1970–1989	**10** **13.5%**		
15. *Hister unicolor unicolor* #		1973	Sa
65. *Hypocacculus* (*Nessus*) *ferreri*		1973	Ps
71. *Hypocaccus* (*Hypocaccus*) *rugifrons rugifrons*		1973	Ps
12. *Hister lugubris*		1974	Sa
69. *Hypocaccus* (*Hypocaccus*) *crassipes*		1979	Ps
73. *Exaesiopus grossipes grossipes* #		<1980	Ps
64. *Hypocacculus* (*Nessus*) *ascendens*		1985	Ps
43. *Gnathoncus rotundatus*		1986	Ph
55. *Saprinus* (*Saprinus*) *semistriatus*		1987	Sa
61. *Hypocacculus* (*Colpellus*) *praecox*		1987	Ps
1990–2008	**55** **74.3%**		
53. *Saprinus* (*Saprinus*) *godet*		1990	Sa
57. *Saprinus* (*Microsaprinus*) *gomyi* #		1991	Sa
16. *Merohister ariasi* #		1995	Sa
27. *Carcinops* (*Carcinops*) *pumilio*		1995	Sa
30. *Paromalus* (*Paromalus*) *parallelepipedus*		1995	De
31. *Chaetabraeus* (*Chaetabraeus*) *globulus*		1995	Mi
44. *Saprinus* (*Saprinus*) *acuminatus acuminatus*		1995	Sa
46. *Saprinus* (*Saprinus*) *caerulescens caerulescens*		1995	Sa
47. *Saprinus* (*Saprinus*) *calatravensis*		1995	Sa
62. *Hypocacculus* (*Hypocacculus*) *metallescens*		1995	Sa
07. *Eurosoma minor*		1997	De
33. *Eubrachium hispidulum*		1997	Mi
70. *Hypocaccus* (*Hypocaccus*) *pelleti*		1997	Ps
48. *Saprinus* (*Saprinus*) *chalcites*		1998	Sa
74. *Xenonychus tridens*		1998	Ps

.....continued

TABLE 6 (continued)

Time period Species	n	Year of last capture	MG
21. *Atholus praetermissus*		1999	Sa
34. *Acritus* (*Pycnacritus*) *homoeopathicus*		1999	Mi
39. *Teretrius* (*Teretrius*) *fabricii*		1999	De
51. *Saprinus* (*Saprinus*) *furvus*		1999	Sa
52. *Saprinus* (*Saprinus*) *georgicus*		1999	Sa
10. *Hister helluo*		2000	Sa
01. *Onthophilus globulosus*		2001	Sa
68. *Hypocaccus* (*Hypocaccus*) *brasiliensis*		2001	Ps
35. *Acritus* (*Acritus*) *nigricornis*		2003	Mi
41. *Gnathoncus communis* #		2003	Ph
22. *Haeterius ferrugineus*		2004	Is
24. *Sardulus incrassatus*		2004	En
25. *Sardulus sacerensis*		2004	En
37. *Halacritus punctum*		2004	Mi
45. *Saprinus* (*Saprinus*) *algericus*		2004	Sa
49. *Saprinus* (*Saprinus*) *cruciatus cruciatus*		2004	Sa
67. *Hypocacculus* (*Nessus*) *rubripes*		2004	Ps
09. *Pactolinus major*		2005	Sa
17. *Atholus bimaculatus*		2005	Sa
19. *Atholus duodecimstriatus duodecimstriatus*		2005	Sa
08. *Margarinotus* (*Ptomister*) *brunneus*		2006	Sa
14. *Hister quadrimaculatus*		2006	Sa
18. *Atholus debeauxi*		2006	Sa
26. *Sardulus spelaeus*		2006	En
29. *Paromalus* (*Paromalus*) *flavicornis*		2006	De
32. *Abraeus* (*Abraeus*) *perpusillus*		2006	Mi
38. *Teretrius* (*Neotepetrius*) *parasita*		2006	De
50. *Saprinus* (*Saprinus*) *detersus*		2006	Sa
56. *Saprinus* (*Saprinus*) *subnitescens*		2006	Sa
59. *Chalcionellus amoenus*		2006	Sa
04. *Platysoma* (*Cylister*) *elongatum elongatum* #		2007	De
05. *Platysoma* (*Cylister*) *filiforme*		2007	De
58. *Chalcionellus aemulus*		2007	Sa
66. *Hypocacculus* (*Nessus*) *puncticollis*		2007	Ps
72. *Hypocaccus* (*Baeckmanniolus*) *d. dimidiatus*		2007	Ps
11. *Hister illigeri illigeri*		2008	Sa
13. *Hister pustulosus*		2008	Sa
23. *Kissister minimus*		2008	Sa
54. *Saprinus* (*Saprinus*) *politus politus*		2008	Sa
60. *Chalcionellus decemstriatus decemstriatus*		2008	Sa

The last capture of 10 species (13.5%) was recorded during the period 1970–1989. Two of these species were collected only once, and as many as six are psammophilous (Tab. 6), an "impressive" number considering that it represents 50% of the Sardinian histerids belonging to this morpho-ecological group (*cf.* Tab. 5). This could be related to the decrease in naturalness of the coastal sandy habitats following the increase in tourist pressure during that period; on the other hand, these "disappearances" could be only apparent and due to the extreme rarity of psammophilous Histeridae.

Going further back in time, the data provide less precise information on species' conservation. Apart from the absence of records from the 1940s (not shown in Tab. 6) corresponding to the Second World War and the post-war period when poor life conditions did not allow for many entomological field campaigns to be carried out, a total of nine taxa (12.2%) were last recorded between 1872 and 1967, four of these being known from only one capture. Apart from this last aspect, it can be noted that three out of the nine species are dendrophiles: *Epierus comptus*, *Paromalus filum* and *Platylister algiricus*, last collected in 1902, 1905 and 1960, respectively. As they represent 30% of the Sardinian dendrophile Histeridae (*cf.* Tab. 5), one might be inclined to suppose that their "disappearance" is due to a progressive loss of naturalness of the woodland heritage of the island during that period, with a consequent rarefaction of dead wood; however, as with the psammophiles, their extreme rarity (very few known records; a single record for *P. filum*) interferes with any such hypothesis. *Tribalus minimus* is the only species out of the 74 recorded altogether to have been caught for the last time (and just once) during the nineteenth century, in 1872.

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